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SUOMALAISEN TIEDEAKATEMIAN TOIMITUKSIA

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SUOMALAISEN TIEDEAKATEMIAN KUSTANTAMA

LICHENES INSULARUM PHILIPPINARUM, III

Scripsit

EDV. A. VAINIO

HELSINGFORSIAE
SUMPTIBUS ACADEMIAE SCIENTIARUM FENNICAE

Typis descripsit "Sana"
MCMXX

Après avoir conquis les Îles Philippines, Les États-Unis d'Amérique du Nord ont institué à Manille un Bureau Scientifique dont les membres nombreux se sont voués à l'exploration de ces îles.

Les collections de lichens recueillis aux Îles Philippines et dans certaines îles avoisinantes par les botanistes de cet institut ayant été soumises à mes études depuis plusieurs années, j'ai publié dans l'organe scientifique du Gouvernement des Îles Philippines („The Philippine Journal of Science published by the Bureau of Science of the Philippine Government") deux mémoires concernant ces lichens, Lichenes Insularum Philippinarum I (en 1909) et II (en 1913). C'est la troisième partie de ces mémoires qui se présente dans les Annales Academiae Scientiarum Fennicae, n'ayant pu être publiée à Manille à cause de la guerre actuelle.

Voici la liste des explorateurs des Îles Philippines cités dans cet ouvrage: *R. J. Alvarez, E. Bacani, C. F. Baker, H. H. Bartlett, F. R. Bona, W. H. Brown, Mary Strong Clemens, E. B. Copeland, H. M. Curran, F. W. Darling, G. Edaño, E. Fénix, F. W. Foxworthy, W. T. Hutchinson, C. D. La Rue, L. Mangubat, R. C. McGregor, E. A. Mearns, E. D. Merrill, M. L. Merritt, J. C. Moulton, F. Otanes, J. Pascasio, M. Ramos, J. Reillo, C. B. Robinson, R. Rosenbluth, F. Sanchez, J. K. Santos, F. Tamesis, M. Vanoverbergh, C. M. Weber, C. A. Wenzel, H. N. Whitford* et *Zschokke.*

Dans ce mémoire, j'ai inséré aussi la liste des espèces trouvées par M:r *A. D. E. Elmer* dans la province de Sorsogon à Manille, ce qui a complété d'une manière considérable le catalogue des lichens philippins.

Helsingfors le 1 octobre 1918.

Lichenes Insularum Philippinarum, III.

Trib. 8. PANNARIEAE

1. Erioderma Fée.

1. **E. tomentosum** Hue Caus. Pann. (Bull. Soc. Bot. Fr. XLVIII, 1902) p. 49. *E. polycarpa* Mont. Lich. Jav. (1855) p. 6 (haud *E. polycarpum* Fée) et *E. unguigerum* Müll. Arg. Lich. Neo-Caled. (Journ. de Bot., 1893) p. 4 (haud Nyl., Lich. Exot. p. 257), teste Hue, l. c.

Thallus foliaceus, lobatus, lobis circ. 12—2 mm latis, ambitu subintegris aut crenatis, applanatis aut involutis, adscendens, superne leviter scrobiculato-inaequalis aut sat laevigatus, cinereo-glaucescens aut cinereo-pallescens, crebre arachnoideo-tomentosus, subtus albidus, reticulato-nervosus, nervis bene elevatis, albidis aut pallidis, rhizinas penicillatas, pallidas aut pallido-cinereas aut albido-pallidas, circ. 1—1.5 mm longas crebre efferentibus aut ambitum versus partim subnudis, sorediis destitutus. Stratum corticale superius circ. 0.020—0.030 mm crassum, ex hyphis irregulariter contextis, conglutinatis formatum, series 2—3 (—4) cellularum horizontales continens, cavitatibus cellularum ellipsoideis aut subglobosis, circ. 0.004 (—0.006) mm latis, membranis (inter cavitatibus) 0.004 mm crassis. Stratum medullare hyphis leptodermaticis, 0.002—0.003 mm crassis, consimilibus in nervis ibique parallelis, crebre fasciculatis, contiguis aut leviter conglutinatis. Tomentum thallum superne tegens ex hyphis ramosis, 0.010—0.008 mm crassis, pachydermaticis, cavitatibus cellularum 0.002—0.003 mm latis, elongatis aut oblongis. Gonidia scytonemea, heterocystis intercalaribus. Apothecia marginalia, peltata et basi constricta, disco planiusculo aut primum concavo, fusco, nudo, opaco, margine tenui, integro, subtus pallida, plus

minusve tomentosa et verruculosa, verruculis ex pilis fasciculatis et partim conglutinatis formatis. Perithecium gonidiis destitutum, strato corticali circ. 0.160—0.140 mm crasso, pseudoparenchymatico, ex hyphis formato verticalibus, conglutinatis, pachydermaticis, cavitatibus cellularum circ. 0.006—0.003 mm latis, oblongis aut ellipsoideis, strato medullari sat tenui, hyphis crebre contextis, haud conglutinatis. Hypothecium pallidum aut dilute fuscescenti-pallidum. Hymenium circ. 0.110 mm crassum, jodo caerulescens, dein vinose rubens. Epithecium rufescens. Paraphyses arcte cohaerentes, simplices, increbre septatae, leptodermaticae, crass. 0.0015—0.002 mm, apicibus leviter aut parum incrassatis. Asci cylindrici aut clavati. Sporae 8:nae, monostichae aut parce etiam distichae, ellipsoideae aut subglobosae, apicibus vulgo rotundatis, rarius obtusis, simplices, decolores aut dilutissime pallidae, membrana gibbosa, modice incrassata, long. 0.009—0.013, crass. 0.006—0.008 mm. Pycnoconidangia in margine thalli sita, verruculas fuscescentes, circ. 0.190 mm. latas formantia, conceptaculo rufescente (sub microscopio). Pycnoconidia cylindrico-oblonga, recta, apicibus obtusis aut rotundatis, long. 0.005—0.004, crass. 0.001 mm. — Huc pertinet *Erioderma* no. 30956 in herb. Nyl., nomine novo inedito nominatum, in Java lectum, et verisimiliter *E. pulchrum* Müll. Arg. var. *sandwicense* Zahlbr., Neue Flechten VI (Ann. Mycol., 1912) p. 377.

Luzon, Subprov. Bontoc, *M. Vanoverbergh 766, 1873, 1082*; Subprov. Benguet, mons Tonglon, *Bur. Sci. 5483 M. Ramos.* In arboribus.

2. E. phaeorhizum Vain. sp. nov.

Thallus foliaceus, iteratim dichotome laciniatus, laciniis circ. 4—1.5 (—1) mm latis, sat irregularibus, adpressus aut apicibus laciniarum adscendentibus, superne laevigatus aut leviter scrobiculato-inaequalis, glaucescens aut cinereo-glaucescens, crebre arachnoideo-tomentosus aut medio partim glabratus, subtus stramineus aut albido-stramineus, subindistincte nervosus, nervis tenuissimis, crebris, ramoso-connexis (tantum lente conspicuis), late glaber, fere tantum in margine partim rhizinis crebris, 1.5—1 mm longis, penicillatis, fuscis instructus circ. 0.080—0.130 mm crassus, sorediis destitutus.

Stratum corticale superius circ. 0.025—0.030 mm crassum, ex hyphis pachydermaticis, irregulariter contextis, maxima parte conglutinatis formatum, cavitatibus cellularum ellipsoideis aut oblongis, 0.002—0.003 mm latis. Tomentum in superficie thalli ex hyphis constans 0.007—0.005 mm crassis, pachydermaticis, cavitatibus cellularum saepe elongatis, 0.0015—0.002 mm latis. Stratum medullare hyphis 0.004—0.003 mm crassis, leptodermaticis. Gonidia scytonemea. — Habitu simile *E. physcioidi* Vain., quod thallo subtus haud nervoso et rhizinis caeruleo-nigricantibus ab eo differt. *E. Leylandi* (Tayl.) Müll. Arg. jam tomento thalli multo longiore a planta nostra distinguitur. Hic notetur etiam *E. javanicum* Vain., thallo superne cinereo aut cinereo-pallescente, tenuiter arachnoideo-tomentoso, sat laevigato, laciniato, laciniis adpressis, margine adscendentibus et demum isidiosis, isidiis brevibus, cylindricis, subramosis, subtus pallidus, nervis destitutus, rhizinis praesertim marginalibus, demum caeruleo-nigricantibus, penicillato-ramosis, ad ramulos arboris in Java ab Junghuhn lectum (35 p. p.; in herb. Nyl. 31319 p. p.).

Mindanao, Distr. Davao, mons Apo, alt. 1900 m, *E. B. Copeland 1090* p. p. In arbore.

2. **Pannaria** Del.

1. **P. mariana** (Fr.) Müll. Arg.

Var. **radiata** (Nyl.) Vain. Addit. Lich. Antill. (1914) p. 101.

Thallus superne pallidus aut pallido-cinerascens, laciniis praesertim ambitum versus discretis, haud aut parum confluentibus, isidiis destitutus, rhizinis marginalibus laxe confertis liberisque, caeruleo-nigricantibus aut fuscis aut rufescentibus.

Luzon, Subprov. Bontoc, *M. Vanoverbergh 742*; Subprov. Benguet, Sablang, *Bur. Sci. 12777 E. Fénix;* Subprov. Laguna, *Bur. Sci. 23297 R. C. McGregor*, mons Maquiling, *Bur. Sci. 17240, 17241 C. B. Robinson.* Polillo, *Bur. Sci. 10488 McGregor.* Mindoro, mons Halcon, *Merrill 5536.* Panay, Subprov. Antique, *Bur. Sci. 32599, 32605 McGregor*; Iloilo, *Bur. Sci. 18165 Robinson.* Guimaras, *Merrill 6719.* Palawan, Taytay, *Merrill 9069.* Mindanao, Subprov. Butuan, *C. M. Weber 1355, 1356, 1364, 1365, 1374, 1397, 1403, 1404, 1418.* In arboribus et raro in rupibus. Fert.

Var. **funebris** (Krempelh.) Vain. *P. funebris* Krempelh. Beitr. Lich. Südsee-Ins. (1873) 101, t. 14 f. 6, 13, 24. *P. pannosa* v. *confluens* Nyl. in Hue Lich. Morph. n. 464.

Thallus superne pallido-cinerascens, laciniis fere omnino confluentibus, isidiis destitutus, rhizinis marginalibus et hypothallinis bene evolutis, laxe confertis, fuscis, partim ex hyphis conglutinatis formatis, ad ambitum partim liberis, pycnoconidangiis verruculas hemisphaericas aut conoideas, apice fuscescentes, basi thallo concolores, 0.2—0.25 (—0.4) mm latas formantibus, supra thallum sparsis. Conceptaculum rufescens. Sterigmata long. 0.020, crass. 0.003—0.002 mm, crebre septata, cellulis fere aeque longis ac latis, apicibus et articulis pycnoconidia efferentibus, apicibus rotundatis aut breviter acuminatis. Pycnoconidia oblonga aut ellipsoidea, recta, apicibus rotundatis, long. 0.003—0.002, crass. 0.001 mm. Apothecia adpresso-peltata, thallo late adnata, basi constricta, margine thallode, anguste incurvo, minute sublacinulato-crenulato, disco plano, testaceo-rufescente aut fusco, subopaco, nudo. Excipulum gonidia infra hypothecium et in margine continens. Perithecium sat grosse parenchymaticum, in parathecium continuatum. Hymenium jodo caerulescens. Epithecium pallidum. Sporae 8:nae, distichae, long. 0.019—0.022, crass. 0.008—0.012 mm, decolores, ellipsoideae, apicibus rotundatis aut raro rotundato-obtusis, membrana laevigata, crass. 0.0015—0.002 mm Gonidia nostocacea. — Huc pertinet planta n. 31392 ex insula S. Thomé, nomine *Pann. pholidotae* a Nyl. determinata in herb. suo. — Haec variatio laciniis thalli confluentibus a *P. Mariana* v. *radiata* bene differt, at in eam saepe transit (velut in n. 8344, 19164 et 621). *P. leiostroma* Nyl. hypothallo crebro et rhizinis haud evolutis secund. specim. orig. in herb. Nyl. a v. *funebri* differt.

Luzon, Subprov. Bataan, Mariveles, *E. D. Merrill 3688*, *For. Bur. 19164 H. M. Curran*; Subprov. Rizal, *Bur. Sci. 13450 M. Ramos*; Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14878*. Mindanao, Subprov. Zamboanga, *Merrill 8344*; Subprov. Butuan, *C. M. Weber 1358, 1379*. Dagami, Leyte, *C. A. Wenzel*. Insulae Batanes, *Bur. Sci. 3859 E. Fénix*. Insulae Marianae,

Guam, *R. C. McGregor 605, 621.* Ad truncos arborum et ad muscos in arboribus et ad rupes. Fert.

2. **P. stylophora** Vain. Add. Lich. Antill. (1914) p. 102. Huc forsan pertinet *P. pannosa* f. *isidiophora* Tuck. in Wright Lich. Cub. n. 101 et Hue Lich. Morph. (1912) n. 464 p. 186 (haud descripta).

Thallo isidiis cylindricis instructo a *P. Mariana* (Fr.) et rhizinis marginalibus laxe confertis a *P. dispartita* (Nyl.) differt.

Var. **disserpens** Vain.

Thallus cinereo-pallescens aut raro cinereo-glaucescens aut albido-pallescens, laciniatus, laciniis discretis, haud aut parum confluentibus, isidiosus, isidiis cylindricis, long. circ. 0.5 mm aut brevioribus, crass. 0.1—0.15 mm, margini et laminae laciniarum affixis, sorediis destitutus, subtus nigricans, rhizinis laxe confertis et ad ambitum thalli liberis, caeruleo-nigricantibus aut fuscis, partim ex hyphis conglutinatis formatis. Apothecia adpresso-peltata, thallo late aut sat late adnata, basi constricta, 1—2.5 mm lata, margine thallode, anguste incurvo, minute sublacinulato-crenulato, disco plano, testaceo aut rufo aut fusco vel fusconigro, subopaco, nudo. Excipulum gonidia infra hypothecium et in margine continens, strato corticali circ. 0.030—0.035 mm crasso, parenchymatico, cellulis leptodermaticis, cavitatibus subglobosis aut ellipsoideis, 0.006—0.007 mm latis. Hypothecium dilute pallidum, irregulariter plectenparenchymaticum, cellulis latitudine mediocribus, strato gonidioso impositum, in parathecium continuatum tenue aut partim bene evolutum, leptodermaticum, cavitatibus cellularum saepe 0.006—0.005 mm latis, subglobosis aut ellipsoideis, ad hymenium angustioribus longioribusque, extus in margine rufescenti-pallidum, ceterum dilute pallidum. Hymenium 0.130—0.100 mm crassum. Epithecium pallidum aut rufescens. Paraphyses tenues, apice modice incrassatae, arcte cohaerentes, membranis parum gelatinosis. Sporae 8:nae aut abortu saepe pauciores, distichae aut monostichae, dilutissime pallidae aut distincte pallidae, ellipsoideae aut subglobosae aut parce etiam oblongae apicibus obtusis aut rotundatis, laevigatae, long.

0.012—0.020, crass. 0.007—0.012 mm, membrana 0.002—0.0015 mm. crassa.

Luzon, Subprov. Benguet, *E. D. Merrill 7994*; Subprov. Pampanga, mons Arayat, *For. Bur. 19343 H. M. Curran*; Subprov. Rizal, *Bur. Sci. 6746 C. B. Robinson*, *Bur. Sci. 13451 M. Ramos*; Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14770* p. p., *15015*. Panay, Subprov. Iloilo, *Bur. Sci. 18215 Robinson*. Palawan, Taytay, *Merrill 9027*, *9069* pr. p., *Bur. Sci. 15634 Fénix*. Mindanao, Subprov. Butuan, *C. M. Weber 1353*; Subprov. Zamboanga, *Merrill 8341*; Distr. Lanao, Castra Keithley prope lacum Lanao. *Mary Strong Clemens 1322*. Insulae Marianae, Guam, *R. C. McGregor 609*. Fert. Ad corticem arborum.

Var. **perconfluens** Vain.

Thallus superne pallido-cinerascens aut cinereo-glaucescens, laciniis fere omnino confluentibus, isidiosus, isidiis cylindricis, circ. 0.5 mm. longis aut brevioribus, simplicibus aut parce ramulosis, margini et laminae laciniarum affixis, sorediis destitutus, subtus nigricans, rhizinis laxe confertis et ad ambitum thalli liberis, fuscis aut nigricantibus, partim ex hyphis conglutinatis formatis et squarroso-ramosis. Apothecia adpresso-peltata, late adnata, basi constricta, circ. 0.7—0.5 mm lata, margine thallode, anguste incurvo, minute lacinulato-crenulato aut subintegro, disco plano, fusco aut nigricante, nudo. Excipulum gonidia continens. Hypothecium pallidum, hyphis subhymenialibus partim fuscis. Hymenium jodo persistenter caerulescens. Epithecium testaceum aut pallidum. Paraphyses arcte cohaerentes, crass. 0.002—0.0015 mm, apice leviter incrassatae. Sporae 8:nae, dilutissime pallidae, ellipsoideae, apicibus obtusis aut rotundatis, leviter gibbosae aut sublaevigatae, membrana 0.002—0.0015 mm crassa. — Analoga est *P. Marianae* v. *funebri* (Krempelh.), a qua thallo isidioso differt.

Luzon, Subprov. Rizal, *Bur. Sci. 13450* pr. p. *M. Ramos*; Subprov. Laguna, San Antonio, *Bur. Sci. 16675 Ramos*. Ad corticem arborum.

3. **P. sorediata** Vain.

Thallus iteratim sudichotome aut irregulariter laciniatus, laciniis circ. 1—0.5 mm latis, sublinearibus aut subcuneatis, elongatis, adpressis, superne pallidus aut pallido-cinerascens aut me-

dium versus demum pallido-fuscescens, sat opacus, haud pruinosus, isidiis destitutus, sorediosus, soraliis circ. 0.5—0.2 mm latis thallo concoloribus, marginalibus et supra laminam thalli sparsis, medium versus saepe demum confluentibus, subtiliter farinosis aut partim crassius granulosis, granulis saepe etiam partim supra thallum sparsis, sat laevigatus aut leviter inaequalis, subtus fuscescens aut ambitum versus pallidus, rhizinis laxe confertis et ad ambitum thalli liberis, circ. 1.5—0.5 mm longis, fuscescentibus, partim ex hyphis conglutinatis formatis. Apothecia adpresso-peltata, thallo sat late adnata, basi constricta, lat. 1—1.2 mm, margine thallode, vulgo anguste incurvo, minute aut parum distincte sublacinulato-crenulato, disco plano, fusco aut raro rufescente, opaco, nudo. Excipulum strato corticali circ. 0.030—0.025 mm crasso (tenuiore in margine), parenchymatico, sat leptodermatico, cavitatibus cellularum subglobosis aut ellipsoideis, circ. 0.010—0.005 mm latis, strato medullari gonidia continente, in stratum gonidiosum thalli continuato. Perithecium 0.050—0.040 mm crassum, pallidum, parenchymaticum, sat leptodermaticum, cavitatibus cellularum subglobosis, circ. 0.005—0.004 mm latis, passim in parathecium tenue continuatum. Hypothecium pallidum, ex hyphis irregulariter crebre contextis formatum. Hymenium circ. 0.140 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut testaceo-rufescens. Paraphyses arcte cohaerentes, leptodermaticae, septatae, crass. 0.002 mm, apice vulgo modice incrassatae. Asci clavati aut cylindrici. Sporae 8:nae, monostichae aut distichae, dilute pallidae aut decolores, fusiformes aut ellipsoideae, apicibus acutis aut acuminatis aut rotundatis, membrana laevigata, sat tenui aut in apicibus crassiore, long. 0.016—0.030, crass. 0.007—0.012 mm — Thallo sorediοso a *P. Mariana* differt. — Huc forsan pertinet *P. atropannosa* f. *sorediata* Schaer. in Zolling. Plant. Jav. 1226 et 3605 (Hue, Lich. Morph., 1912, n. 464 p. 186), haud descr.

Mindanao, Subprov. Butuan, *C. M. Weber 1386, 1387*. Fert. Ad truncos arborum.

4. **P. rubiginosa** (Thunb.) Del.

F. **caesiocinerea** Vain. Addit. Lich. Antill. (1904) p. 102.

Thallus superne cinerascens, isidiis destitutus, hypothallo substrato adnato, crebre aut raro laxe contexto byssinoque (in n. 10487). Fert.

Luzon, Subprov. Bataan, mons Mariveles, *E. D. Merrill 6285*. Polillo, *Bur. Sci. 10487 R. C. McGregor*. Fert.

F. **pallescens** Vain.

Thallus superne cinereo-pallescens aut pallidus aut raro fuscescens, isidiis destitutus, hypothallo substrato adnato, crebre aut raro laxe contexto byssinoque (subf. *byssophora*: n. 16805, 3973, 16997). Fert.

Luzon, Subprov. Cagayan, *For. Bur. 16805 H. M. Curran;* Subprov. Benguet, Pauai (2100 m s. m.), *Bur. Sci. 8543, 8579 R. C. McGregor*, mons Pulog, *E. D. Merrill 6431, 7949*; Subprov. Bataan, mons Mariveles, *E. D. Merrill 3973*; Subprov. Rizal, *Bur. Sci. 16997 M. Ramos*. Dinagat, *Bur. Sci. 35895 M. Ramos, J. Pascasio*. Panay, Subprov. Iloilo, *Bur. Sci. 18165* pr. p., *18168 C. B. Robinson*. Mindanao, Distr. Butuan, *C. M. Weber 1363, 1400*; Distr. Davao, mons Apo (6000 p. s. m.), *E. B. Copeland 1090* p. p. Fert. Ad corticem arborum.

5. **P. lepidophora** Vain. sp. nov.

Margine thalli lacerato et isidiis applanatis instructo et lobulis apice adscendentibus a *P. rubiginosa* differt. — *P. myrioloba* Müll. Arg., Anal. Austral. (1896) p. 92, et *P. prolifera* Müll. Arg., Lich. Beitr. (1882) p. 417, rhizinis longis thalli ab his speciebus distinguuntur.

Var. **lepidocheila** Vain.

Apothecia margine plus minusve isidioso. — Thallus sat irregulariter laciniatus, laciniis circ. 1.5—0.3 mm latis, difformibus, adpressis et apicibus saepe leviter adscendentibus, margine isidioideo-laceratus et isidiosus, isidiis applanatis, saepe rotundatis, adscendentibus, sorediis destitutus, superne pallido-glaucescens aut cinereo-pallescens aut isabellino-pallescens, isidiis thallo concoloribus aut cinerascentibus, sat laevigatus, subtus plus minusve late albidus aut medio vel totus nigricans, rhizinis destitutus, hypothallo plus minusve evoluto, caeruleo-nigricante, tenui, crebre contexto, sub-

strato adnato, medulla alba. Apothecia adpresso-peltata, basi constricta, lat. 1—3 mm, margine thallode, anguste incurvo, minute lacinulato-crenulato, plus minusve isidioso, disco pallido aut rufescente, nudo, sat opaco aut subnitido. Excipulum (amphithecium) strato corticali circ. 0.030 mm crasso, parenchymatico, sat leptodermatico, cavitatibus cellularum subglobosis, circ. 0.016—0.004 mm latis, superficialibus reliquis minoribus, strato medullari gonidia continente. Perithecium tenue, circ. 0.050—0.045 mm crassum, albidum, grosse parenchymaticum, sat leptodermaticum, cavitatibus cellularum subglobosis, circ. 0.014—0.008 mm latis, in parathecium tenue, subsimile, superne pallidum, cellulis paullo minoribus instructum, continuatum. Hypothecium pallidum aut dilute pallidum. Hymenium circ. 0.130 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut dilute pallidum. Paraphyses arcte cohaerentes, septatae, crass. 0.002—0.0015 mm, apice haud incrassatae, modice gelatinosae, gelatina in KHO mollescente et fere dissoluta. Asci clavati aut subcylindrici, in apice membrana primum modice incrassata. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae, apicibus rotundatis aut raro obtusis, membrana laevigata aut gibbis minutis parcissimis instructa, 0.0015 mm crassa aut crassiore in apice sporae, duobus stratis in jodo bene conspicuis, long. 0.013—0.027, crass. 0.008—0.012 mm.

Luzon, Subprov. Benguet, Pauai (alt. 2100 m s. m.), *Bur. Sci. 8552*, *8568*, *8601*, *8603*, *8625*, *8632 McGregor*.

Var. **simplicior** Vain.

Apothecia isidiis destituta. - Thallus superne cinereo-pallescens aut glauco-fuscescens, margine isidioideo-laceratus et parcius isidiosus, isidiis adscendentibus, applanatis, saepe rotundatis, thallo concoloribus, sorediis destitutus, subtus ambitum versus albidus, medio aut totus nigricans, rhizinis destitutus, hypothallo tenui, crebre contexto, caeruleo-nigricante, substrato adnato, medulla alba. Apothecia basi constricta, adpressa aut late adnata, lat. 1—3.5 mm, margine thallode, anguste incurvo, minute lacinulato-crenulato, haud

isidioso, disco rufescente, subnitido, opaco. Amphithecium et perithecium sicut in var. praecedente. Hypothecium pallidum. Hymenium circ. 0.140 mm crassum. Epithecium pallidum. Sporae 8:nae, monostichae aut distichae, decolores aut dilutissime pallidae, ellipsoideae, apicibus rotundatis aut raro obtusis, membrana leviter gibbosa aut laevigata, long. 0.014—0.024, crass. 0.009—0.013 mm — Ad *P. rubiginosam* accedit, in eam fere transiens.

Luzon, Subprov. Benguet, Pauai (alt. circ. 2100 m s. m.), *E. D. Merrill 6643*, *E. B. Copeland 1376*, *Bur. Sci. 8566 R. C. McGregor.*

6. **P. leiostroma** Nyl. apud Leight. Lich. Ceyl. (Trans. Linn. Soc. Lond. XXVII, 1869) 165; Müll. Arg. Fl. Samoa Lich. (Engl. Bot. Jahrb. XXIII, 1897) 296.

Thallus foliacens, iteratim irregulariter crebre laciniatus, laciniis 0.8—0.2 mm latis, confluentibus et demum partim subimbricatis, adnatis, superne cinereo-pallescens aut fuscescenti-isabellinus, sorediis isidiisque destitutus, subtus nigricans, medulla albido- et miniato- aut fulvo-variegata, partibus cololoratis KHO violascentibus, rhizinis destitutus, hypothallo tenui, crebre contexto, substrato adnato, nigricante, praesertim ad ambitum thalli conspicuo, aut evanescente. Apothecia peltata, late adnata, basi constricta, lat. 1—2.5 mm, margine thallode, anguste incurvo, distincte aut vix distincte minute lacinulato-crenulato, disco rufescente, sat opaco, nudo. Amphithecium strato corticali circ. 0.015—0.030 mm crasso, parenchymatico, leptodermatico, cavitatibus cellularum subglobosis, circ. 0.008—0.006 mm latis, strato medullari gonidia continente. Perithecium tenue, circ. 0.020 mm crassum, sat grosse parenchymaticum, leptodermaticum, cellulis vulgo irregularibus, dilute fulvescens aut intense fulvo-rubescens, KHO violascens, in parathecium sat tenue, intense fulvo-rubescens continuatum. Hypothecium pallidum. Hymenium circ. 0.100 mm. crassum, jodo persistenter caerulescens. Epithecium rufescens aut pallidum, KHO non reagens. Paraphyses arcte cohaerentes, crass. 0,0015 mm, apicem versus 0.002 mm., simplices aut parcissime ramoso-connexae, gelatinam e partibus exterioribus membranarum formatam, modice evolutam, percurrentibus. Asci clavati

aut subcylindrici. Sporae 8:nae, monostichae aut distichae, decolores aut demum dilutissime pallidae, ellipsoideae, apicibus rotundatis, membrana laevigata aut demum leviter gibbosa, crass. 0.001 mm aut interdum crassiore, long. 0.015—0.020, crass. 0.008—0.012 mm. Stratum corticale thalli circ. 0.020—0.030 mm crassum, grosse parenchymaticum, leptodermaticum, cellulis subglobosis, diam. 0.016—0.008 mm aut summis minutis, in seriebus horizontalibus 2—3, zonae gonidiali impositum. Gonidia nostocacea. — Laciniis thalli confluentibus et colore strati medullaris a *P. rubiginosa* differt. *P. pannosa* Nyl. v. *erythrocardia* Müll. Arg., Lich. Beitr. (Fl. 1882) n. 418, secundum descriptionem est autonoma et analoga species. *P. funebris* Krempelh. jam hypothallo laxe contexto a *P. leiostromate* differt.

Luzon, Subprov. Benguet, alt. 1500 m s. m., *E. D. Merrill 7997*; Subprov. Bataan, mons Mariveles, *Merrill 6282*. Ad truncos arborum.

7. **P. endomilta** Vain. sp. nov..

Thallo isidioso a *P. leiostromate* differt. — Thallus laciniis partim discretis, partim confluentibus, adnatis, fuscescenti-isabellinis, isidiis minutis, granuliformibus aut cylindricis applanatisve in lamina et margine thalli sparsis, hypothallo tenui, crebre contexto, nigricante, ad ambitum thalli conspicuo, substrato adnato, strato medullari fulvorubescente, KHO violascente.

Mindanao, Distr. Davao, mons Apo (alt. 6000 p. s. m.), *E. B. Copeland 1090* pr. p. Ster. In arbore.

8. **P. dispartita** (Nyl.) Vain. Addit. Lich. Antill. (1914) p. 102. *P. rubiginosa* var. *dispartita* Nyl. in Cromb. Lich. Rodrigu. (1877) p. 436.

Thallus laciniatus, isidiis cylindricis, margini et laminae laciniarum affixis, sorediis destitutus, medulla alba, hypothallo substrato adnato, nigricante, crebre contexto aut raro (in n. 6194) laxe contexto byssinoque.

Mindanao, Distr. Davao, mons Apo (alt. 6000 p. s. m.), *E. B. Copeland 1090* pr. p. Supra muscos ad truncum arboris. — Mindoro, mons Halcon, *E. D. Merrill 6194* (f. *byssocheila* Vain.).

9. **P. leucosticta** Tuck. (Darl. Fl. Cestr., 1853, 441; Nyl. Syn. Lich. II p. 34); Hue Lich. Morph. (1912) no. 466.

Thallus squamosus, squamis superne olivaceo-pallidis isabellinisve, margine vulgo albido-pruinosis aut raro subconcoloribus, nec isidiosis, nec sorediosis, hypothallo tenui, crebre contexto, substrato adnato, caeruleo-nigricante, medulla alba. Apothecia margine thallode, anguste incurvo, minute lacinulato-crenulato, crenulis vulgo margine albo-pruinosis, disco rufescente, sat opaco, nudo. Amphithecium gonidia continens, membranis strati corticalis modice incrassatis. Perithecium circ. 0.080—0.070 mm crassum, sat pachydermaticum, cavitatibus cellularum irregularibus, 0.004—0.002 mm latis, in parathecium continuatum. Hymenium circ. 0.120 mm crassum, jodo caerulescens deindeque pulchre vinose rubens. Sporae subglobosae aut ellipsoideae, apicibus rotundatis, aut raro fusiformes apicibusque acutis aut longe attenuatis et tunc long. 0.022 et crass. 0.010 mm., ceterum vulgo long. 0.010—0.012, crass. 0.008—0.010 mm — Thallus crass. circ. 0.300—0.220 mm, strato medullari lacunis minutis instructo.

Luzon, Subprov. Benguet, in monte 1800 m s. m., *Merrill 7930*, Pauai, circ. 2100 m s. m., *Bur. Sci. 8588 McGregor*, *Copeland 1378*. Ad truncos arborum.

F. **subconcolor** Müll. Arg. Lich. Yatab. Jap. (N. Giorn. Bot. Ital. 1892) p. 194.

Crenulis laciniarum thallo concoloribus aut hinc inde albicantibus. — Hymenium jodo caerulescens deindeque pulchre vinose rubens. Perithecium bene evolutum, membranis cellularum modice incrassatis. Thallus crass. circ. 0.180—0.170 mm, strato medullari lacunoso.

Luzon, Subprov. Benguet, Pauai (alt. circ. 2100 m s. m.), *Bur. Sci. 8592 R. C. McGregor*. Ad radices parasitarum supra truncum arboris.

10. **P. Ramosii** Vain. sp. nov.

Thallus foliaceus, iteratim subdichotome aut irregulariter laciniatus, laciniis circ. 1—2.5 (—4) mm latis, saepe leviter concavis et margine leviter inflexis. discretis aut demum partim imbricatis, inaequaliter dilatatis vel subcuneatis, margine irregulariter crenulatis, demum isidioideo-laceratis et isidiosis, isidiis partim applanatis, partim cylindricis et simplicibus aut parce ramosis, circ. 1 mm.

longis aut brevioribus, sorediis destitutus, superne cinereo- aut pallido-glaucescens, partim cinereo-gibbosus sive subpruinosus, gibbis minutissimis, partim laevigatus, subtus pallidus, rhizinis circ. 0.3—2 mm longis, subsimplicibus, fuscescentibus, crebris instructus, medulla alba. Stratum corticale circ. 0.020 (—0.030) mm crassum, cavitatibus cellularum 0.004—0.006 mm latis, irregularibus, membranis modice incrassatis. Gonidia nostocacea. Apothecia peltata, adpressa, basi constricta, lat. 1—3 mm, margine thallode, tenui, verruculoso- aut lobulato-crenulato, demum isidioso, disco plano, fusco, opaco, nudo. Amphitecium strato corticali circ. 0.020 mm crasso, sat pachydermatico, cavitatibus cellularum irregularibus, circ. 0.002—0.004 mm latis. Perithecium circ. 0.010—0.040 mm crassum, pallidum, sat pachydermaticum, cavitatibus cellularum irregularibus, circ. 0.002—0.004 mm latis, in parathecium continuatum. Hypothecium dilute pallidum. Hymenium circ. 0.120—0.140 mm crassum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, gelatinosae, cavitatibus circ. 0.0015 mm latis. Epithecium pallidum. Sporae 8:nae, distichae, oblongae, altero apice rotundato, altero obtuso, dilute pallidae, parce gibbosae, long. 0.015—0.022, crass. 0.007—0.010 mm. — Habitu subsimile *Psor. araneoso* (Bab.). A *P. Mariana* thallo isidioso, subtus pallido, ad ambitum rhizinis haud conspicuis differt.

Luzon, Subprov. Rizal, *Bur. Sci. 13629 M. Ramos.*

11. **P. limbata** Vain. sp. nov.

Thallus foliaceus, irregulariter laciniatus, laciniis inaequaliter dilatatis, circ. 3—1 mm latis, leviter concavis aut planis, saepe discretis, margine crenatis, superne isabellinus vel cinereo-pallido-glaucescens, granulis partim sorediosis, marginalibus aut parce etiam supra laminam thalli evolutis, albido-cinereis, ad ambitum pruina albida, verruculosa anguste obtectus, haud distincte puberulus, isidiis destitutus, adpressus, subtus pallidus aut raro passim parce obscuratus, rhizinis brevibus, subsimplicibus, thallo concoloribus aut passim obscuratis instructus, medulla alba. Stratum corticale circ. 0.030—0.035 mm crassum, parenchymaticum, seriebus cellularum

horizontalibus circ. 3—4, cavitatibus globosis, diam. 0.005—0.010 mm, membranis sat tenuibus, strato gonidioso impositum. Gonidia nostocacea. — Subsimilis *P. caeruleobadiae* (Schleich.) Mass., quae thallo subtus caeruleonigricante et rhizinis concoloribus et sorediis caesiocineris ab ea recedit. *P. fulvescens* (Mont.) Nyl. secund. specim. orig. strato medullari subduplice et cellulis strati corticalis magis irregularibus a planta nostra differt.

Polillo, *Bur. Sci. 9081 C. B. Robinson.* In arbore. Ster.

12. **P. involuta** Vain. sp. nov.

Thallus foliaceus, irregulariter subdichotome laciniatus, laciniis inaequaliter dilatatis, lat. 5—2 (— 1) mm, contiguis aut discretis, margine involuto aut inflexo, subintegro, ceterum adpressus, superne pallidus, sat laevigatus, ambitum versus verruculoso-pruinosus, glaber, isidiis sorediisque destitutus, subtus pallidus, rhizinis nigricantibus aut caeruleo-nigricantibus, penicillato-ramosis maxima parte crebre obductus, circ. 0.240 mm crassus, medulla alba, simplice. Gonidia nostocacea, contorta. Stratum corticale crass. circ. 0.030—0.020 mm, parenchymaticum, seriebus cellularum horizontalibus 5—2, cavitatibus globosis, diam. 0.005—0.007 mm, membranis sat tenuibus aut partim leviter incrassatis, strato gonidioso impositum. Apothecia peltata, sessilia, basi bene constricta, lat. 1—2.5 mm, margine thallode, anguste incurvo, subintegro aut minute lacinulato-crenulato et crenulis confluentibus, disco rufo, sat opaco, nudo. Excipulum strato corticali circ. 0.050 mm crasso, parenchymatico, cavitatibus cellularum subglobosis aut ellipsoideis, inaequaliter dilatatis, leptodermatico aut sat pachydermatico, in margine apothecii parum evoluto, strato medullari gonidia continente. Perithecium plectenparenchymaticum, crass. 0.80—0.090 mm, pachydermaticum, cavitatibus cellularum oblongis aut elongatis, 0.006—0.010 (—0.004) mm latis, albidum aut dilutissime pallidum, continuatum in parathecium tenuius, pallidum, pachydermaticum, cellulis minoribus instructum. Hypothecium pallidum, jodo caerulescens. Hymenium circ. 0.140 mm crassum, jodo persistenter caerulescens. Epithe-

cium pallidum. Paraphyses arcte cohaerentes. Sporae 8:nae, distichae aut monostichae, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, raro globulosae, decolores aut demum dilutissime pallidae, sublaevigatae, aut leviter verruculosae, membrana 0.0015 mm crassa, long. 0.011—0.022, crass. 0.009—0.012 mm. — Ab hac specie differunt: *P. pycnophora* (Nyl.) Müll. Arg. rhizinis parcis albidisque, *P. lurida* (Mont.) hypothallo albido aut cinerascente et laciniis thalli haud inflexis, *P. sublurida* Nyl. thallo superne longitudinaliter increbre ruguloso, rugulis acutis.

Mindanao, Distr. Davao, mons Apo, 1900 m s. m., *E. B. Copeland 1090* p. p. Ad truncum arboris.

13. **P. carneopallens** Vain. sp. nov.

Thallus foliaceus, irregulariter laciniatus, laciniis inaequaliter dilatatis, lat. circ. 3—0.5 mm, demum pannoso-confertis et crustam circ. 5 mm. crassam, e pluribus stratis superpositis constantem formantibus, concavis aut planis, margine crenatis aut crenulatis, adpressis aut adscendentibus, superne pallescens aut cinereo-pallescens, crenulis partim albido-marginatis, crebre verruculosus, verruculis saepe leviter arachnoideo-tomentosis, sorediis isidiisque destitutus, subtus pallidus albidusve, rhizinis concoloribus aut partim demum caeruleo-nigricantibus obscuratisve, 0.5—1.5 mm longis, intus albidus aut in partibus vetustis putrescentibusve partim demum miniatus, KHO parum reagens, at partibus miniatis KHO purpureis, circ. 0.200—0.160 mm crassus. Gonidia scytonemea, glaucescentia, infra stratum corticale subdissoluta chlorophylloque evanescente. Stratum corticale crass. 0.025—0.030 mm, inaequale, parenchymaticum, decoloratum, sat leptodermaticum, cavitatibus cellularum globosis, diam. 0.008—0.005 mm, strato gonidioso impositum. Apothecia peltata, sessilia, basi bene constricta, lat. 1—2.5 mm, demum saepe prolifera confertaque, margine thallode, anguste incurvo, minute lacinulato-crenulato, crenulis confluentibus albidisque, disco plano, pallido aut carneo-pallido, opaco, nudo, medio saepe perforata foveolatave. Amphithecium gonidia continens. Perithecium dilute pallidum, 0.040—0.035 mm crassum, subcartilagineum, modice pachy-

dermaticum, cavitatibus cellularum globosis aut oblongis, 0.002—0.003 mm latis, parathecio tenuiore aut evanescente. Hypothecium pallidum, jodo dilute caerulescens. Hymenium circ. 0.150—0.180 mm crassum, jodo persistenter caerulescens. Sporae 8:nae, subdistichae, globosae aut ellipsoideae, apicibus rotundatis aut altero apice obtuso, decolores, long. 0.014—0.017, crass. 0.008—0.011 mm.

Luzon, Subprov. Benguet, 1500 m s. m., *E. D. Merrill 8000*; Subprov. Bataan, mons Mariveles, *E. B. Copeland*, litt. "*M*" p. p. (cum *Parmelia Zollingeri*). Ad truncos arborum.

3. **Parmeliella** (Müll. Arg.) Vain.

1. **P. nigrocincta** (Mont.) Müll. Arg., Lich. Beitr. (Fl. 1881) n. 243. *Pannaria* Nyl., Syn. Lich. II (1860) p. 39; Hue, Lich. Morph. (1912) n. 475. *Pannularia* Nyl., Lich. Guin. (1889) p. 13.

Excipulum gonidiis destitutum. Hypothecium intense fulvescens. Epithecium fulvescens. Hymenium jodo persistenter caerulescens, crass. circ. 0.100 mm. Asci clavati. Sporae 8:nae, distichae, decolores aut dilutissime pallescentes, simplices, oblongae, apicibus obtusis aut sat acutis, membrana sat tenui, parce gibbosae, long. 0.014—0.019, crass. 0.0065—0.009 mm. Gonidia nostocacea. Hypothallus creberrime contextus (talis etiam in specim. orig. n. 31203 et 31196 in herb. Nyl.)

Luzon, Subprov. Benguet, 1500 m s. m., *E. D. Merrill 7980*. Mindanao, Subprov. Butuan, 320 m s. m., *C. M. Weber 1366*. Ad truncos arborum.

2. **P. obliterans** (Nyl.) Vain. *Pannaria* Hue, l. c. n. 476.

Thallo magis continuo laciniisque confluentibus a *P. nigrocincta* differt.

Var. **depauperata** Vain. **Pannularia obliterans* Nyl., Lich. Nov. Zel. (1888) 50, 51.

Thallo maxima parte depauperato obliteratoque a v. *philippina* differens, in Nova Zelandia lecta est.

Var. **philippina** Vain.

Thallus bene evolutus, tenuis, laciniis contiguis, confluentibus, hypothallo tenui, arcte contexto, caeruleo-nigricante, extra thallum protenso.

Luzon, Subprov. Benguet, 1500 m s. m., *E. D. Merrill 7968*. Ad corticem arboris. Fert.

3. **P. nigrocinerea** (Nyl.) Vain. *Pannaria* Nyl., Syn. Lich. II (1860) p. 39.

Thallus squamosus aut ad ambitum subfoliaceus, irregulariter laciniatus, laciniis 0.2—0.8 mm latis, adscendentibus, superne cinereo-pallescens aut cinereo-glaucescens aut pallidus, apice partim tenuissime pruinosus, isidiis sorediisque destitutus, subtus albidus, crass. circ. 0.180—0.160 mm, medulla alba, hypothallo laxe contexto byssoideoque, caeruleo-nigricante. Gonidia nostocacea. Stratum corticale circ. 0.040—0.045 mm crassum, parenchymaticum, sat leptodermaticum, cavitatibus cellularum ellipsoideis aut subglobosis, 0.005—0.010 mm latis. Apothecia peltata, sessilia, basi bene constricta, lat. 0.5—1.4 mm, pr. p. demum irregularia, lecideina, margine proprio nigricante, integro, sat tenui, haud aut parum prominente, disco fusco aut nigricante, sat opaco, nudo. Perithecium grosse plectenparenchymaticum, pallidum, sat pachydermaticum, cellulis vulgo oblongis, subtus hyphis hypothallinis instructum. Hypothecium fusco-rufescens, superne fulvo-rufescens, KHO non reagens. Paraphyses arcte cohaerentes. Hymenium jodo persistenter caerulescens. Sporae 8:nae, monostichae aut distichae, oblongae aut ellipsoideae, apicibus obtusis, simplices, decolores, laevigatae, long. 0.010—0.014, crass. 0.005 mm. — Etiam in specimine orig. in herb. Nyl. hypothallus est byssoideus et discus apotheciorum fuscus aut fusconiger.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8587 R. C. McGregor.*

4. Coccocarpia Pers.

1. **C. pellita** (Ach.) Vain.

Thallus isidiis destitutus, subtus obscuratus aut albidus. Apothecia atra aut fusca aut rufa aut vitellina aut pallida.

Var. **parmelioides** (Hook.) Müll. Arg., Lich. Beitr. (Fl. 1882) n. 421; Vain., Étud. Lich. Brés. I p. 209.

Thallus lobatus, lobis latis, praesertim ad ambitum contiguis, subtus aeruginoso-nigricans, rhizinis concoloribus. Apothecia atra, excipulo haud ciliato.

Luzon, Subprov. Benguet, *Sanchez 17*, *E. D. Merrill 7945*, Baguio, alt. circ. 1250 m s. m., *Bur. Sci. 14067 C. B. Robinson*, mons Pulog, *Merrill 6422* Subprov. Rizal, *Bur. Sci. 16988 M. Ramos.* Panay, Subprov. Capiz, Libacao, *Bur. Sci. 35830 A. Martelino*, *G. Edaño*; Subprov. Iloilo, *Bur. Sci. 18161*, *18227 Robinson.* Palawan, Taytay, *Merrill 1926.* Ad corticem arborum.

Var. **seriata** Vain.

Thallus foliaceus, ad ambitum accrescens et medium vel basin versus emoriens, ad instar *Corae* lobatus, crass. 0.100—0.110 mm, lobis 8—3 mm latis, cuneatis, ambitu rotundatis, saepe demum leviter subimbricatis, adnatis aut leviter adscendentibus, superne cinereis et ambitum versus subcupreo-pallescentibus, nitidis, glabris, subtus fuscescentibus, rhizinis subconcoloribus, in seriebus numerosis, cum ambitu parallelis dispositis. Stratum corticale superius crass. 0.020—0.015 mm, ex hyphis longitudinalibus formatum. A *C. pellita* var. *parmelioide* rhizinis seriatis differt.

Sina, Prov. Kwantung, mons Loh Fau (Lofauschan), 1150 m s. m., *E. D. Merrill 11189.* Ster. Loco humido umbroso in rupe.

Var. **genuina** Müll. Arg. Lich. Beitr. (Fl. 1882) n. 421; Vain. Étud. Lich. Brés. I p. 210.

Thallus laciniatus, laciniis angustis, subtus aeruginoso-nigricans, rhizinis concoloribus. Apothecia atra, excipulo haud ciliato.

Luzon, Subprov. Laguna, *Bur. Sci. 23294 R. C. McGregor.* Ad corticem arboris.

Var. **smaragdina** (Pers.) Müll. Arg. Lich. Beitr. (Fl. 1882) n. 421. *P. smaragdina* Hue Lich. Morph. (1912) n. 481. *P. parmelioides* f. *pyrrhichocarpa* Hue, l. c. p. 215.

Thallus subtus partim albidus aut fere totus nigricans, rhizinis nigricantibus aut cinerascentibus aut albidis. Apothecia rufescentia aut fuscescentia aut testaceo-rufescentia, excipulo haud ciliato. — In *C. smaragdina* Pers. (Freyc. Voy. Uran., 1826, p. 206) secund. specim. orig. n. 2477 e Marianis in herb. Nyl. thallus tuberculis parvis (haud isidiis) exasperatum (quae nota adventicia alio specim. orig. n. 30969 deest), subtus albidus, rhizinis albidis, apothecia fusca.

Luzon, Subprov. Bontoc, alt. circ. 1650 m s. m., *M. Vanoverbergh 1338* p. p.; Subprov. Benguet, Baguio, alt. circ. 1250 m s. m., *Bur. Sci. 14068 C. B. Robinson*; Subprov. Tayabas, *Bur. Sci. 9417 Robinson.* Mindanao, Distr. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1321.* Ad truncos arborum.

Var. **cinchonarum** (Fée) Vain. *P. aurantiaca* Hue, l. c. n. 483, pr. p. (exl. var.).

Thallus subtus albidus aut rarius obscuratus, rhizinis albidis aut cinerascentibus aut rarius caeruleo-nigricantibus. Apothecia pallida aut vitellina. — *Solorina vitellina* Fée, Ess. Crypt. (1824) p. 133, apotheciis „spadiceo-rufis" describitur, at spectat ad *Solorinam cinchonarum* Fée, l. c. tab. XXX fig. 1, in qua apothecia sunt vitellina. *S. aurantiaca* Hook. fil. et Tayl., in Hook. Lond. Journ. Botan. 1844 p. 635, ad *C. croniam* v. *aurantiacam* Vain. pertinet.

Luzon, Subprov. Bontoc, circ. 1650 m s. m., *M. Vanoverbergh 1338* p. p. Polillo, *Bur. Sci. 9108 C. B. Robinson.* Mindanao, *C. M. Weber 1362, 1420.* Ad truncos et ramulos arborum.

2. **C. cronia** (Tuck.) Vain., Addit. Lich. Antill. (1914) p. 103.

Thallus superne isidiosus, subtus obscuratus aut albidus. Apothecia atra aut fusca aut rufa aut vitellina aut pallida. Isidia cylindrica.

Var. **primaria** Vain., l. c.

Thallus lobis latis, subtus aeruginoso-nigricans. Apothecia nigricantia.

Luzon, Subprov. Benguet, Kabayan, *E. D. Merrill 4877*, Sablang, *Bur. Sci. 12788* p. p. *Fénix*; Subprov. Pampanga, mons Arayat, *For. Bur. 19347 H. M. Curran.* Panay, Subprov. Iloilo, Larena, circ. 820 m s. m., *Bur. Sci. 18214 C. B. Robinson.* Palawan, Taytay, *Merrill 9026* p. p. Ad truncos arborum et in rupibus.

Var. **laceratula** Vain.

Thallus lobis latis, medium versus breviter lacinulatis, subtus aeruginoso-nigricans. Apothecia nigricantia (tantum juvenilia visa).

Luzon, Subprov. Benguet, 1500 m s. m., *E. D. Merrill 7987.* Mindanao, Distr. Zamboanga, *E. B. Copeland* (*Litt. D.*). Ad truncos arborum et in rupibus.

Var. **isidiophylla** (Müll. Arg.) Vain., l. c.

Thallus lobis latis, subtus plus minusve late obscuratus et partim praesertimque ambitum versus albidus, rhizinis obscuratis aut partim cinerascentibus aut ambitum versus albidis. Apothecia fuscescentia aut rufa.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 9792 C. B. Robinson.* Mindanao, Subprov. Butuan, *C. M. Weber 1381, 1419.* Ins. Camaguin, *Bur. Sci. 14910 M. Ramos.* Tantum sterilis lecta. Ad truncos arborum et in rupibus.

Var. **aurantiaca** (Hook. fil. et Tayl.) Vain. *Solorina aurantiaca* Hook. fil. et Tayl., in Hook. Lond. Journ. Bot. 1844 p. 635, teste Müll. Arg., Lich. Beitr (Fl. 1888) n. 1388, ad *C. aurantiacam* Mont. et v. d. Bosch, Lich. Jav. p. 39, secundum descriptionem thallo isidioso instructam, pertinens. *P. aurantiaca* f. *furfuracea* (Müll. Arg.) Hue, Lich. Morph. (1912) p. 220.

Thallus lobis latis, subtus albidis aut partim obscuratis, rhizinis concoloribus. Apothecia fulvescentia aut pallida, haud ciliata.

Polillo, *Bur. Sci. 6888 C. B. Robinson.* Tantum sterilis collecta. Ad truncum arboris.

Var. **isidiosa** (Müll. Arg.) Vain., Addit. Lich. Antill. (1914) p. 104. *C. pellita* v. *semiincisa* f. *isidiosa* Müll. Arg., Lich. Usamb. (1894) p. 104.

Thallus laciniis angustis, subtus aeruginoso-nigricans, rhizinis concoloribus. Apothecia nigricantia.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12788* pr. p. *E. Fénix*; Subprov. Laguna, San Antonio, *Bur. Sci. 16680 M. Ramos*; Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14770* p. p. Ster. Ad truncos arborum.

Var. **guimarana** Vain.

Thallus laciniis angustis, subtus pallidus, rhizinis pallidis. In variationibus *C. pellitae* et *C. croniae*, quarum thallus subtus est pallidus, apothecia sunt fulvescentia aut pallida.

Insula Guimaras, *E. D. Merrill 6722.* Ster. Ad truncum *Cocoës.* — Postea subsimilis collecta etiam ad Bangui in Subprov. Ilocos Norte in Manilla, *Bur. Sci. 27781 M. Ramos.*

Var. **microphylla** Vain.

Thallus laciniis 0.4—0.2 mm latis, brevibus, adnatis, superne obscure cinerascentibus, bene isidiosis, inferne albidus, rhizinis albidis, evanescentibus. Ster. — A var. *granulosa* (Müll. Arg.) Vain., Addit. Lich. Antill. (1915) p. 104, thallo inferne albido differt.

Biliran, *Bur. Sci. 18441 R. C. McGregor.* Ad corticem arboris.

3. **C. Fenicis** Vain. sp. nov.

Thallus foliaceus, dichotome aut irregulariter laciniatus, laciniis 1.2—0.2 mm latis, sublinearibus, adpressis, leviter discretis aut subcontiguis, leviter crebreque rugulosus, superne isabellino- aut cinereo-fuscescens, medium versus crebre isidiosus, isidiis minutissimis, applanatis squamaeformibusque, sat adpressis, saepe ramulosis, subtus ambitum versus pallidus albidusve, ceterum fuscescens, rhizinis brevibus, sat crebris aut increbris, cinereo-fuscescentibus, medulla alba, circ. 0.050 mm. crassus. Gonidia scytonemea. Stratum corticale superius ex hyphis longitudinalibus, conglutinatis, leptodermaticis, crebre septatis formatum, tenue. Apothecia circ. 0.5—2 mm lata, saepe confluentia, adpressa sessiliaque, disco plano, rufo aut testaceo-rufescente, sat opaco, nudo, margine tenui, concolore, demum evanescente. Excipulum plectenparenchymaticum, ex hyphis formatum radiantibus, modice pachydermaticis, cavitatibus cellularum vulgo oblongis, 0.004—0.002 mm latis, gonidiis destitutum, subtus rhizinis instructum. Hypothecium dilute pallidum. Hymenium circ. 0.050—0.060 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut testaceo-rufescens. Paraphyses arcte cohaerentes, crass. vulgo 0.0015—0.003 mm, apice crassiores, increbre septatae. Sporae 8:nae, distichae, decolores, fusiformes, apicibus acutis aut obtusis, long. 0.010—0.012, crass. 0.003—0.004 mm. — Isidiis applanatis, haud erectis a *C. cronia* differt.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12778 E. Fénix.* Ad corticem arboris. — Ad hanc speciem pertineat planta laciniis thalli latioribus instructa in Subprov. Antique in Panay lecta, *Bur. Sci. 32609 R. C. McGregor* (ster. ad ad corticem arboris).

4. **C. aeruginosa** Müll. Arg., Rev. Lich. Féean. (1887) p. 16, Lich. Beitr. (1890) n. 1510; Jatta in Malp. 1903 p. 11. *C. epiphylla* Krempelh., Lich. Foliic. (1874) p. 5 (haud Fée).

Thallus laciniis contiguis, radiantibus, arcte adnatis, partim linearibus, partim cuneatis, apice 2—0.4 mm latis, superne aeruginosus, rarius cinereus, isidiis destitutus, ciliis brevissimis, crebris, albis, ad marginem conspicuis, subtus albidus, crass. circ. 0,034 mm, subtus albidus, rhizinis albidis aut pallidis, brevissimis, crebris, for-

matis ex hyphis conglutinatis. Gonidia scytonemea, aeruginosa. Apothecia 3—0.5 mm lata, 0.160—0.090 mm crassa, saepe demum confluentia, demum difformia lobataque, adpressa, disco plano, pallido aut vitellino-pallido, sat opaco, nudo, immarginata, subtus pilosa. Perithecium plectenparenchymaticum, ex hyphis formatum radiantibus, modice pachydermaticis, conglutinatis, cavitatibus cellularum vulgo oblongis, 0.002—0.005 mm latis, gonidiis destitutum. Hypothecium tenuissimum, pallidum. Hymenium 0.050—0.045 mm crassum, jodo persistenter caerulescens. Epithecium pallido-rufescens aut pallidum. Paraphyses arcte cohaerentes, crass. 0.002—0.003 mm, apice parum incrassatae, increbre septatae. Sporae 8:nae, distichae, decolores, ellipsoideae aut subglobosae, apicibus rotundatis, long. 0.009—0.004, crass. 0.005—0.003 mm.

Luzon, Distr. Infanta ad flumen Anoling, *C. B. Robinson*; Distr. Laguna, via Siniloan, *Robinson*. Polillo, *Robinson, Bur. Sci. 10805 R. C. McGregor*. Mindoro, flumen Alag, *E. D. Merrill*. In foliis *Ardisiae, Palmarum* aliarumque arborum.

5. **C. ciliata** (Bél.) Vain. *Collema ciliatum* Bél. Voy. p. 130 (haud Hoffm.). *Leptogium* Nyl., Syn. Lich. p. 126. *L. palmatulum* Nyl., Énum. Gén. Lich. Suppl. (1857) p. 333.

Thallus iteratim dichotome laciniatus, laciniis discretis, arcte adnatis, linearibus, 0.050—0.140 mm latis, superne cinereo-aeruginosus, isidiis destitutus, haud distincte ciliatus, subtus albidus, rhizinis increbris, pallidis, 0.008—0.010 mm crassis, formatis ex hyphis numerosis conglutinatis. Stratum corticale superius et inferius ex hyphis formatum longitudinalibus, crebre septatis, conglutinatis. — *Collema ciliatum* Bél. secund. specim. orig. ex Java, n. 30981 in herb. Nyl. plantae nostrae habitu omnino simile est et isidiis destitutum, „apotheciis carneorufis, deorsum ciliatis, hymenio jodo caeruléscente, sporis long. 0.005—0.008, crass. 0.004 mm“, ut indicat Nyl. *Coccocarpia ciliolata* Mont. secund. specim. orig. n. 30984 in herb. Nyl. thallo isidioso et apotheciis croceo-rubris ab hac specie differt.

Polillo, *C. B. Robinson*. Supra *Hepaticas* in folio coriaceo sterilis parceque lecta.

5. **Psoroma** (Fr.) Nyl.

1. **Ps. sphinctrinum** (Mont.) Nyl., Syn. Lich. II p. 25 (excl. var.). *Pannaria* Hue, Lich. Morph. n. 447 (excl. var.).

Thallus foliaceus, superne pallido-fuscescens vel cervinus, raro glaucescenti-pallidus, tenuis, isidiis et sorediis destitutus, haud pruinosus, subtus vulgo pallidus, rhizinis increbris, saepe brevibus, vulgo fere concoloribus, raro demum obscuratis. Apothecia disco rufo aut raro fusco, margine thallino, anguste inflexo, lacinulato-crenulato, thallo concolore aut raro fusco. Sporae 8:nae, distichae, simplices, ellipsoideae, apicibus obtusis aut rotundatis, exosporio parce gibboso, long. 0.015—0.018, crass. 0.010—0.012 mm. Gonidia pleurococcacea.

Luzon, Subprov. Lepanto, mons Data, 7000 p. s. m., *E. D. Merrill 4886*; Subprov. Benguet, *Bur. Sci. 13508 M. Ramos*; Subprov. Pampanga, mons Arayat, *For. Bur. 19336, 19337 H. M. Curran*; Subprov. Bataan, mons Mariveles, 1000 m s. m., *Merrill 3684, 3968, 3977, 3978, 6260*; Subprov. Rizal, *Bur. Sci. 13630, 13632 Ramos*, Antipolo, *Bur. Sci. 29554 Ramos, G. Edaño*; Subprov. Laguna, *Bur. Sci. 23293 R. C. McGregor*; Subprov. Tayabas, *Bur. Sci. 13212 Foxworthy* et *Ramos*; Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14855* a, *14904, 14959*. Polillo, *Bur. Sci. 9106 C. B. Robinson*. Mindanao, Distr. Butuan, *C. M. Weber 1372*; Distr. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1325*; Distr. Zamboanga, *E. B. Copeland 1752* et litt. "a". Biliran, *Bur. Sci. 18437 R. C. McGregor*. Ad truncos arborum *Agathis philippinensis*, *Radermachera*, cet.).

6. **Megalopsora** Vain.

Thallus foliaceus, superne strato corticali obductus cartilagineo, ex hyphis formato subverticalibus, pachydermaticis, conglutinatis, subtus strato corticali destitutus, hypothallo byssoideo. Gonidia pleurococcacea. Apothecia gonidiis destituta, stratum medullare continentia. Sporae aciculares, simplices aut 3-septatae, membrana tenui, haud papillosa. — *Psoromopsis* Nyl. apotheciis lecanorinis, gonidia continentibus, ab hoc genere differt.

1. **M. MacGregorii** Vain. sp. nov.

Thallus foliaceus, iteratim irregulariter laciniatus, laciniis 5—50 mm longis, 1—5 mm latis, apice et latere crenatis, sat planis aut leviter revoluto-convexis, crassitudine mediocris, superne glauco-

aut pallido-stramineus, KHO non reagens, substrato adnatus aut partim adpressus, sorediis et isidiis destitutus, glaber, subnitidus, intus albidus, subtus albido-pallescens, ambitum versus glaber, ceterum hypothallo obductus albido- aut cinereo-pallescente, byssino, ex hyphis formato laxissime contextis, 0.006—0.005 mm crassis, membranis modice incrassatis. Stratum corticale partem superiorem thalli obducens, 0.020—0.025 mm crassum, cartilagineum, ex hyphis formatum subverticalibus, pachydermaticis, sine limite conspicuo conglutinatis, tubulis cellularum 0.001, raro 0.002 mm latis. Gonidia pleurococcacea (tantum simplicia visa), globosa, diam. 0.005—0.008 mm, membrana tenui. Stratum medullare thalli 0.2 mm crassum, hyphis sat laxe contextis, 0.004 (—0.005) mm crassis. Apothecia supra thallum sparsa aut raro aggregata, lat. 1.5—0.5 mm, adpressa, basi bene constricta, gonidiis destituta, subbiatorina, disco rufescenti-testaceo aut subtestaceo, nudo, sat opaco, plano, margine concolore aut pallidiore, crassitudine mediocri aut demum tenuiore, primum elevato, demum discum haud superante. Perithecium saepe demum subtus leviter tomentosum et rugulosum, strato corticali 0.030—0.050 mm crasso, ex hyphis formato radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum elongatis aut oblongis, 0.001—0.0015 mm crassis, strato medullari granulationes amorphas continente, ex hyphis formato irregulariter contextis, aëre disjunctis. Hypothecium pallidum. Paraphyses arcte cohaerentes, crassitudine mediocres, apice clavatae. Hymenium circ. 0.060 mm crassum, totum dilute pallidum aut epithecio intensius pallido, jodo intense persistenterque caerulescens. Sporae 8:nae, polystichae, decolores, aciculares, apice inferiore attenuato, superiore sat acuto, rectae, simplices, membrana tenui, long. 0.026—0.036, crass. 0.0015 mm. — Thallo isidiis destituto a *M. cylindrophora* (Tayl.) Vain. recedit, et apotheciis subbiatorinis a *Psoromate* et generibus ei affinibus differens, analoga est *Psoromariae* Nyl. et *Thelideae* Hue, quae sporis ad ea destinguuntur.

Luzon, Subprov. Nueva Vizcaya, prope Dupax, *Bur. Sci. 14316 R. C. McGregor.* Ad truncum arboris.

2. **M. cylindrophora** (Tayl.) Vain. *Parmelia* (Tayl. in Hook. Journ. Bot. 1847 p. 165. *Physcidia* Hue, Quat. Lich. Exot. (Bull. Soc. Linn. Norm. 1907) p. 30. *Psoroma cylindrophorum* Nyl., Syn. Lich. II (1860) p. 24.

Thallus foliaceus, iteratim irregulariter laciniatus aut subpalmatus, laciniis revoluto-convexis, 0.100—0.160 mm crassus, superne glauco- aut pallido-stramineus, KHO non reagens, at addito $CaCl_2O_2$ superne levissime flavescens et intus non reagens, substrato adpressus et partim adnatus, passim isidiis 0.5—3 mm longis, circ. 0.2 mm crassis, cylindricis, erectis, vulgo simplicibus et verruculis vel initiis isidiorum instructus, ceterum glaber, partim subnitidus, intus albidus, subtus albidus aut pallidus, hypothallo partim obductus stramineo aut stramineo-cinerascente, byssino, ex hyphis formato 0.003—0.004 mm crassis, laxe contextis, ramoso-connexis, sat pachydermaticis, cavitatibus cellularum 0.0015—0.002 mm latis. Stratum corticale 0.020—0.016 mm crassum, stramineo-pallidum, ex hyphis formatum sat pachydermaticis, sine limito distincto conglutinatis, cavitatibus cellularum 0.002—0.0015 mm latis. Gonidia pleurococcacea, globosa, flavescentia, diam. 0.008—0.005 mm. — Apothecia supra thallum sparsa aut aggregata, lat. 2—1 mm, peltata, basi bene constricta, gonidiis destituta, subbiatorina, disco rufo, nudo, leviter nitido, plano, margine testaceo aut testaceo-rufescente, crassitudine mediocri, integro, discum vulgo leviter superante. Perithecium laevigatum, subtus partim tomentosum, strato corticali cartilagineo, ex hyphis radiantibus pachydermaticis conglutinatis formato, strato medullari irregulariter contexto, hyphis 0.012—0.008 mm crassis, pachydermaticis, partim materia pallida amorpha granulosa, partim aëre disjunctis. Hypothecium pallidum, irregulariter crebre contextum. Hymenium circ. 0.070 mm crassum, jodo caerulescens. Asci subclavati. Paraphyses arcte cohaerentes, simplices, crass. 0.0015 mm. Sporae 4:nae (aut 8:nae?), polystichae, decolores, aciculares, apicibus obtusis aut sat acutis, rectae, simplices aut raro demum distincte 3-septatae (in KHO et jodo visae), long. 0.026—0.030, crass. 0.0015 mm. Gonidia pleurococcacea, globosa, flavescentia, diam. 0.008—0.005 mm. — „*Parmelia cylindrophora*“ Tayl., sterilis

prope Madras collecta, speciminibus nostris consimilis est. *Psoromopsis Wrigthii* (Tuck.) Nyl., Syn. Lich. II (1860) p. 56 („*Physcia*? *Wrightii*“ Tuck. Suppl. II in Am. Journ. Scienc. XXVIII, 1859, p. 204, *Physcidia Wrightii* Tuck. Obs. N. Am. Lich. in Proc. Am. Ac. Arts and Scienc. 1862 p. 400), huic speciei est subsimilis, sed apotheciis parce gonidia continentibus, laciniis thalli planis, substrato arcte adnatis, subdichotomis ab ea differt et in insula Cuba fertilis lecta est (Wright Lich. Cub. ser. II n. 184 p. p.).

Luzon, Subprov. Rizal, mons Susong-Dalaga, *Bur. Sci. 29461 M. Ramos* et *G. Edaño* (fert.): Subprov. Pangasin, Umingan, *Bur. Sci. 18361 F. Otanes* (ster.); Subprov. Bataan, mons Marivcles et prope flumen Lamao, *Whitford 1885* (ster.). Ad truncos arborum.

7. **Physcidia** (Tuck.) Müll. Arg.

1. **Ph. callopis** (Mey. et Flot.) Müll. Arg., Rev. Lich. Mey. (Jahrb. K. Bot. Gart. Berl. II, 1883) 314; Hue, l. c. 34.

Haec species teste Müll. Arg., l. c., „sporis sicut in *Sperschneidera*“ (polari-dyblastis) et „late fusiformi-ellipsoideis, 0.015 mm longis, 0.005—0.006 mm latis“ a *Psoromopside* differt, et, si sporae revera tales sint, *Placodio* forsan est affinis.

„Ad corticem arborum Manilae“ (Gaudich.: May. et Flot. in Nov. Act. Ac. C. Leop.-Carol. Nat. Curios. XIX, 1843, Suppl. I, 224).

Trib. 9. HEPPIEAE

1. **Heppia** Naeg.

1. **H. acarosporoides** Müll. Arg. Lich. Austral. Occid. (Hedwigia 1892) 194.

Thallus squamosus, squamis orbicularibus aut leviter angulosis, diam. 2—1 mm, subintegris, adpressis, circ. 0.25 mm crassis, sparsis aut parce contiguis, apothecia solitaria continentibus, planis aut rarius convexis concavisve, laevigatis, nec sorediosis, nec granulosis, superne olivaceis aut pallido-olivaceis, intus albis, subtus pallidis, gompho munitis centrali, in arenam penetrante, circ. 0.25—0.3 mm crasso, dichotome ramoso, ex hyphis formato 0.012—0.006 mm crassis, conglutinatis, increbre septatis, membranis modice incrassatis.

Stratum corticale inferius thalli circ. 0.100 mm crassum, parenchymaticum, cavitatibus cellularum globosis, circ. 0.018—0.006 mm latis, membranis tenuibus. Stratum corticale superius evanescens aut circa apothecia parenchymaticum, e serie subsimplice horizontali cellularum formatum, cavitatibus globosis, 0.006—0.010 mm latis, zona gonidiali impositum. Stratum medullare maxima parte gonidiis destitutum, ex hyphis formatum verticalibus, haud conglutinatis, leptodermaticis, constricte articulatis, cellulis vulgo subglobosis aut ellipsoideis, circ. 0.006—0.013 mm crassis, guttulas oleosas continentibus. Apothecia thallo immersa, aspicilioidea, orbicularia aut leviter anguloso-orbicularia, disco 0.3—0.7 mm lato, haud aut leviter impresso, plano aut concavo, laevigato aut rugoso, fusco aut rufo, nudo, opaco, margine thallino discum et squamam leviter superante, sat tenui, integro, thallo concolore vulgo instructa. Hypothecium pallidum. Hymenium circ. 0.150 mm crassum, jodo sat dilute persistenter caerulescens, apicibus ascorum intense caerulescentibus. Epithecium rufescens aut testaceo-rufescens, KHO non reagens. Paraphyses in epithecio arcte conglutinatae, ceterum laxe cohaerentes, increbre septatae, crass. 0.002—0.001 mm. Asci ventricoso-oblongi, long. circ. 0.105, crass. 0.024 mm, polyspori. Sporae globosae aut rarius ellipsoideo-subglobosae, long. et lat. 0.004—0.005 mm. Gonidia scytonemea, vagina tenui, cellulis aeruginosis aut glaucescentibus, transversim circ. 0.008—0.006 mm, glomeruloso-concatenatis. — Ad sect. *Peltulam* pertinet.

Luzon, Subprov. Rizal, Pateros, *Bur. Sci. 9564, C. B. Robinson.*

Trib. 10. COLLEMACEAE

1. **Rhodothrix** Vain.

Thallus crustaceo-byssiformis, e filis tenuibus, repentibus, irregulariter intricatis formatus, homoeomericus, hyphis tenuibus, gonidia filiformia, scytonemea obducentibus. Apothecia pyrenocarpoidea. Sporae decolores, simplices.

1. **Rh. phyllogena** Vain. sp. nov.

Thallus byssiformis, ex filis constans repentibus, irregulariter laxe contextis, 0.010—0.012 mm crassis, crustam modice incrassatam aut sat tenuem, substrato arcte adnatam, effusam, rufescentem formantibus, hyphis tenuibus, leptodermaticis, decoloribus, gonidia filiformia, scytonemoidea irregulariter obducentibus. Gonidia trichomata formantia cylindrica, 0.010—0.012 mm crassa, simplicia, apicibus rotundatis, cellulis in serie simplice dispositis, 0.003—0.006 mm longis, dilute violaceis aut fulvescenti-decoloratis, heterocystis intercalaribus, decoloribus, vagina tenui aut sat tenui, decolore aut extus fulvescente, haud gelatinosa, in H_2SO_4 gelatinoso-incrassata, forsan ad *Scytonema vinosum* Mont. pertinentia. Apothecia globosa aut ellipsoideo-globosa, vulgo stipitata, alt. 0.080 mm, capitulo diam. 0.050—0.070 mm, stipite long. 0.030 mm, basi crass. 0.020 mm, pallido-rufescentia. Perithecium tenue, minute parenchymaticum. Nucleus decoloratus. Asci clavati aut oblongi, long. 0.036, crass. 0.011 mm, membrana modice incrassata, gelatinosa. Paraphyses simplices, tubulis tenuibus, parce septatis, membranis gelatinosis, bene incrassatis. Sporae 8:nae, distichae, decolores, ellipsoideae aut globosae, apicibus obtusis aut rotundatis, simplices, long. 0.007—0.0035, crass. 0.004—0.0035 mm (haud bene evolutae, quare hae indicationes haud satis certae).

Polillo, *C. B. Robinson.* Supra folia coriacea arboris.

2. **Trichobacidia** Vain.

Thallus crustaceo-byssiformis, e filis tenuibus, irregulariter intricatis formatus, homoeomericus, hyphis tenuibus, gonidia filiformia, scytonemea, haud mucosa obducentibus. Apothecia lecideina (biatorina). Sporae decolores, aciculares, septatae.

1. **Tr. Robinsonii** Vain. sp. nov.

Thallus byssiformis, ex filis constans irregulariter laxe contextis, repentibus, 0.011—0.013 mm crassis, crustam tenuem, substrato arcte adnatam, effusam, glauco-rufescentem formantibus, hyphis 0.002—0.003 mm crassis, leptodermaticis, decoloribus, gonidia filiformia, scytonemoidea ad instar *Coenogonii* irregulariter obducentibus.

Gonidia trichomata formantia cylindrica, 0.008—0.013 mm crassa, apicibus rotundatis, simplicia, vagina tenui, haud gelatinosa, decolore, cellulis in serie simplice dispositis, aeque longis, ac latis, aut longioribus brevioribusve, dilute aut sat dilute violaceis aut rarius glaucoviolaceis, heterocystis paullo crassioribus, intercalaribus, globosis, decoloribus, forsan ad *Scytonema vinosum* Mont. pertinentia. Apothecia 0.3—0.2 mm lata, peltata, basi constricta, testaceo-rufescentia, disco concavo aut plano, nudo, fere punctiformi, margine integro, opaco. Perithecium ex hyphis radiantibus, sat leptodermaticis, conglutinatis formatum. Hypothecium rufescenti-pallidum. Hymenium totum dilute pallidum aut basim versus intensius coloratum, circ. 0.030 mm crassum, jodo intense caerulescens, dein vinose rubens. Paraphyses arcte cohaerentes, crass. 0.0015 mm, apicibus leviter incrassatis, simplices, haud gelatinosae. Asci clavati. Sporae 8:nae, decolores, polystichae, aciculares, altero apice obtuso, altero acuto, rectae, septis circ. 4, long. 0.026, crass. 0.0015 mm.

Luzon, Subprov. Tayabas, prope viam Siniloan, *C. B. Robinson.* Ad folium arboris.

3. **Dendriscocaulon** Nyl.

1. **D. bolacinum** (Schaer.) Nyl., Fl. 1885 p. 299, Lich. Nov. Zel. 11. *Parmelia atro-caerulea* v. *bolacina* Schaer., Lich. Helv. Spic. (1840) 519 (haud Ach.).

Var. **dendroides** Vain. *Leptogium dendroides* Nyl., Fl. 1867 p. 438 (secund. specim. orig. n. 41030 in hb. Nyl.). *D. filicinellum* Nyl., Lich. Nov. Zel. (1888) 10.

Thallus maxima parte glaber, ramulis isidioideis apicalibus parcissimis. — Thallus subteres, fruticulosus, crebre iteratim dichotome ramosus, long. circ. 10—20 mm, crass. circ. 1—0.2 mm, caespitosus, erectus, laevigatus, caesio-cinerascens aut partim pallidus, opacus, solidus, heteromericus, undique strato corticali obductus, gonidiis infra stratum corticale dispositis, sorediis destitutus, rhizinis parcis spinulaeformibus lateralibus instructus. Stratum corticale 0.020—0.040 mm crassum, e seriebus 2 (—3) horizontalibus cellularum formatum, sat leptodermaticum, cavitatibus cellularum subglobosis, diam. 0.016—0.005 mm. Stratum medullare gonidiis destitutum, myelohyphicum, hyphis crebre irregulariter contextis, haud aut passim

inaequalis, subtus crebre subverruculoso-rugulosus, verruculis apice rotundatis. Apothecia margine pallido. Excipulum subtus strato corticali e seriebus cellularum horizontalibus numerosis, in margine e seriebus paucis (2—3) formato, perithecio tenui, in medio — 0.040 mm crasso, pallido, cellulis depressis, parathecio tenui aut fere evanescente. Sporae murales, septis transversalibus 3—5 (—6), long. 0.026—0.030, crass. 0.012 mm.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14771* p. p. Ad corticem arboris.

3. **L. phyllogenum** Vain. sp nov.

Thallus foliaceus, tenuissimus, crass. 0.20—0.024 mm, substrato adpressus, punctis increbris superne impressis substrato affixus, irregulariter laciniatus lobatusque, circ. 2—10 mm latus, laciniis circ. 1—3 mm latis, lobis crenulisque apice vulgo rotundatis (aut saepe truncatis in f. *subsinuata*), axillis vulgo angustis acutisque (aut rotundatis in f. *subsinuata*), superne et inferne sat laevigatus, tomento et isidiis destitutus, plumbeus aut plumbeo-caerulescens, strato corticali parenchymatico, e serie simplice cellularum formato, superne et inferne obductus, strato medullari tenui, haud distincte mucoso. Gonidia nostacacea, glaucescentia aut aeruginoso-glaucescentia, cellulis concatenatis, 0.005—0.006 mm latis. — Huc pr. p. verisimiliter pertinet *L. crispulum* Krempelh. Lich. Foliic. (1874) p. 1, Lich. Beccar. (1875) p. 9 (Müll. Arg. Lich. Beitr., 1890, n. 1509), apotheciis descriptum (coll. 117), at specimina ramulicolae (coll. 118), observante Müll. Arg., forte pro forma crispula „*L. diaphani* Nyl.“ habenda sunt.

Luzon, Subprov. Tayabas, Siniloan et Anoling. *Robinson.* Polillo, *McGregor.* Ad folia *Euphorbiae cinereae*, *Palmarum* aliarumque arborum.

F. **subsinuata** Vain.

Thallus laciniis angustioribus, apice saepe truncatis, axillis rotundatis.

Luzon, Subprov. Tayabas, mons Binuang, *Bur. Sci. 28955 M. Ramos, G. Edaño.* Polillo, *Robinson.* Ad folia arborum.

Gonidia trichomata formantia cylindrica, 0.008—0.013 mm crassa, apicibus rotundatis, simplicia, vagina tenui, haud gelatinosa, decolore, cellulis in serie simplice dispositis, aeque longis, ac latis, aut longioribus brevioribusve, dilute aut sat dilute violaceis aut rarius glaucoviolaceis, heterocystis paullo crassioribus, intercalaribus, globosis, decoloribus, forsan ad *Scytonema vinosum* Mont. pertinentia. Apothecia 0.3—0.2 mm lata, peltata, basi constricta, testaceo-rufescentia, disco concavo aut plano, nudo, fere punctiformi, margine integro, opaco. Perithecium ex hyphis radiantibus, sat leptodermaticis, conglutinatis formatum. Hypothecium rufescenti-pallidum. Hymenium totum dilute pallidum aut basim versus intensius coloratum, circ. 0.030 mm crassum, jodo intense caerulescens, dein vinose rubens. Paraphyses arcte cohaerentes, crass. 0.0015 mm, apicibus leviter incrassatis, simplices, haud gelatinosae. Asci clavati. Sporae 8:nae, decolores, polystichae, aciculares, altero apice obtuso, altero acuto, rectae, septis circ. 4, long. 0.026, crass. 0.0015 mm.

Luzon, Subprov. Tayabas, prope viam Siniloan, *C. B. Robinson.* Ad folium arboris.

3. **Dendriscocaulon** Nyl.

1. **D. bolacinum** (Schaer.) Nyl., Fl. 1885 p. 299, Lich. Nov. Zel. 11. *Parmelia atro-caerulea* v. *bolacina* Schaer., Lich. Helv. Spic. (1840) 519 (haud Ach.).

Var. **dendroides** Vain. *Leptogium dendroides* Nyl., Fl. 1867 p. 438 (secund. specim. orig. n. 41030 in hb. Nyl.). *D. filicinellum* Nyl., Lich. Nov. Zel. (1888) 10.

Thallus maxima parte glaber, ramulis isidioideis apicalibus parcissimis. — Thallus subteres, fruticulosus, crebre iteratim dichotome ramosus, long. circ. 10—20 mm, crass. circ. 1—0.2 mm, caespitosus, erectus, laevigatus, caesio-cinerascens aut partim pallidus, opacus, solidus, heteromericus, undique strato corticali obductus, gonidiis infra stratum corticale dispositis, sorediis destitutus, rhizinis parcis spinulaeformibus lateralibus instructus. Stratum corticale 0.020—0.040 mm crassum, e seriebus 2 (—3) horizontalibus cellularum formatum, sat leptodermaticum, cavitatibus cellularum subglobosis, diam. 0.016—0.005 mm. Stratum medullare gonidiis destitutum, myelohyphicum, hyphis crebre irregulariter contextis, haud aut passim

inaequalis, subtus crebre subverruculoso-rugulosus, verruculis apice rotundatis. Apothecia margine pallido. Excipulum subtus strato corticali e seriebus cellularum horizontalibus numerosis, in margine e seriebus paucis (2—3) formato, perithecio tenui, in medio — 0.040 mm crasso, pallido, cellulis depressis, parathecio tenui aut fere evanescente. Sporae murales, septis transversalibus 3—5 (—6), long. 0.026—0.030, crass. 0.012 mm.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14771* p. p. Ad corticem arboris.

3. **L. phyllogenum** Vain. sp nov.

Thallus foliaceus, tenuissimus, crass. 0.20—0.024 mm, substrato adpressus, punctis increbris superne impressis substrato affixus, irregulariter laciniatus lobatusque, circ. 2—10 mm latus, laciniis circ. 1—3 mm latis, lobis crenulisque apice vulgo rotundatis (aut saepe truncatis in f. *subsinuata*), axillis vulgo angustis acutisque (aut rotundatis in f. *subsinuata*), superne et inferne sat laevigatus, tomento et isidiis destitutus, plumbeus aut plumbeo-caerulescens, strato corticali parenchymatico, e serie simplice cellularum formato, superne et inferne obductus, strato medullari tenui, haud distincte mucoso. Gonidia nostacacea, glaucescentia aut aeruginoso-glaucescentia, cellulis concatenatis, 0.005—0.006 mm latis. — Huc pr. p. verisimiliter pertinet *L. crispulum* Krempelh. Lich. Foliic. (1874) p. 1, Lich. Beccar. (1875) p. 9 (Müll. Arg. Lich. Beitr., 1890, n. 1509), apotheciis descriptum (coll. 117), at specimina ramulicolae (coll. 118), observante Müll. Arg., forte pro forma crispula „*L. diaphani* Nyl.“ habenda sunt.

Luzon, Subprov. Tayabas, Siniloan et Anoling. *Robinson.* Polillo, *McGregor.* Ad folia *Euphorbiae cinereae*, *Palmarum* aliarumque arborum.

F. **subsinuata** Vain.

Thallus laciniis angustioribus, apice saepe truncatis, axillis rotundatis.

Luzon, Subprov. Tayabas, mons Binuang, *Bur. Sci. 28955 M. Ramos, G. Edaño.* Polillo, *Robinson.* Ad folia arborum.

4. **L. azureum** (Sw.) Nyl. *Lichen azureus* Sw. Fl. Ind. Occ. (1806) p. 1895 (sec. specim. orig. in herb. Ach.). *Lichen tremelloides* Linn. fil. Syst. Veg. Suppl. (1781) 450 (haud Lightf.). *Leptogium tremelloides* Vain. Étud. Lich. Brés. 224.

Var. **laevior** Vain.

Thallus foliaceus, crassit. circ. 0.150—0.090 (—0.080) mm, laevigatus, isidiis destitutus. Apothecia margine pallido aut rufescente. Excipulum strato corticali in margine demum e seriebus pluribus horizontalibus cellularum formato, perithecio evanescente aut tenui, parathecio evanescente aut modice evoluto (circ. 0.040—0.050 mm crasso). Sporae murales. Gonidia bene aut sat bene mucosa.

Luzon, Subprov. Apayao, mons Sulu, *Bur. Sci. 28458 E. Fénix.* Subprov. Benguet, mons Pulog, *Bur. Sci. 8963 McGregor*, Pauai, alt. circ. 2100 m s. m., *Bur. Sci. 8573, 8590* (f. margine propagulifera), *8617, 8618, 8621 McGregor*; Subprov. Bataan, mons Mariveles, *Merrill 6283, 6284*, Limay, *Bur. Sci. 9625, 9635 Robinson*; Subprov. Rizal, Bosoboso, *Bur. Sci. 1179 Ramos*; Subprov. Laguna, *Bur. Sci. 23295 McGregor*, mons Banajao, *Bur. Sci. 9774 Robinson*; Subprov. Tayabas, mons Binuang, *Bur. Sci. 28954 M. Ramos* et *G. Edaño*, Siniloan, *Bur. Sci. 9483 Robinson.* Polillo, *Bur. Sci. 10482, 10483 McGregor.* Mindanao, Distr. Zamboanga, *Merrill 8346, 8352*; Distr. Butuan, *Weber 1371*; Castra Keithley prope lacum Lanao, *Clemens 1312*; Distr. Davao, mons Apo, 6000 p. s. m., *Copeland 1084.* Panay, Subprov. Antique, *Bur. Sci. 32598, 32602 McGregor.* Balabac, *Bur. Sci. 529 Mangubat.* Biliran, *Bur. Sci. 18423, 18431 McGregor.* Ad truncos arborum et in rupibus et supra muscos rupium.

Var. **subrugosa** Vain.

Thallus superne sat laevigatus, inferne increbre subnervoso-rugulosus, rugis tenuibus, humilibus, leviter ramosis, obtusis, longitudinalibus, intus mucosus, 0.100—0.160 mm crassus. Apothecia margine pallido aut rufescente. Stratum corticale excipuli in margine e seriebus cellularum horizontalibus nonnullis, ceterum e seriebus pluribus formatum. — In var. *laeviorem* transit.

Luzon, Subprov. Lepanto, Malaya, *Bona 155*; Subprov. Laguna, *Bur. Sci. 23290 McGregor*; Subprov. Pangasinan, mons S. Isidoro, *Bur. Sci. 30147 E. Fénix.* Biliran, *Bur. Sci. 18435 McGregor.* Supra muscos rupium et in ipsa rupe. Fert.

8. **L. caesium** (Ach.) Vain. l. c. 225.

Var. **pichnea** (Ach.) Vain. *Collema tremelloides* c. *pichneum* Ach., Syn. Lich. (1814) 343 (in specimine orig. thallus superne laevigatus, isidiosus, inferne parce longitudinaliter rugulosus).

Thallus crassit. circ. 0.140 mm, superne et inferne laevigatus aut inferne leviter rugulosus, superne et margine partim isidiosus, vulgo caesio-cinerascens. Apothecia margine vulgo thallo concolore, caesio-cinerascente aut raro cinereo-pallido. Stratum corticale in margine excipuli e serie simplice (aut raro partim e serie duplice) horizontali cellularum formatum.

Luzon, Subprov. Benguet, mons Pauai, *Merrill 6645*; Subprov. Rizal, mons Susong-Dalaga, *Bur. Sci. 29457 M. Ramos* et *G. Edaño*; Subprov. Bataan, Limay, *Bur. Sci. 9629 Robinson.* Fert. Ad corticem *Zizyphi* et aliarum arborum. Fert.

Var. **trachyna** Vain.

Thallus partim superne et margine isidiosus, superne et inferne rugulosus, rugis humilibus, crebris, longitudinalibus, subsimplicibus, vulgo acutis. Margo apotheciorum thallo concolor, strato corticali e serie simplice horizontali cellularum formato. — *L. rugulosum* (Nyl.) margine apotheciorum rufescenti-pallido et strato corticali marginis magis evoluto ab hac varietate differt (secund. specim. 41455 e Mexico in herb. Nyl., specim. orig. e Nova Caledonia herbario Nyl. deest).

Polillo, *Bur. Sci. 10484* pr. p. *Robinson, 10488* pr. p. *McGregor.* Fert. Ad truncos arborum.

9. **L. propaguliferum** Vain. sp. nov.

Thallus foliaceus, crassit. circ. 0.125—0.160 (raro 0.070) mm, superne et inferne crebre rugulosus, rugis sat elevatis, circ. 0.040—0.080 mm altis, saepe reticulatis, undulatis, obtusis aut subacutis, margine et passim parcius superficie lacinulato-isidiosus, isidiis vulgo rotundatis, caesio-cinerascens, intus bene mucosus, hyphis laxe contextis. Apothecia circ. 1—2 mm lata, sessilia, basi bene constricta, disco testaceo-rufescente, nudo, opaco, plano, aut raro convexo, margine tenui, pallido, maculis parvis caesio-cinerascenti-

4. **L. azureum** (Sw.) Nyl. *Lichen azureus* Sw. Fl. Ind. Occ. (1806) p. 1895 (sec. specim. orig. in herb. Ach.). *Lichen tremelloides* Linn. fil. Syst. Veg. Suppl. (1781) 450 (haud Lightf.). *Leptogium tremelloides* Vain. Étud. Lich. Brés. 224.

Var. **laevior** Vain.

Thallus foliaceus, crassit. circ. 0.150—0.090 (—0.080) mm, laevigatus, isidiis destitutus. Apothecia margine pallido aut rufescente. Excipulum strato corticali in margine demum e seriebus pluribus horizontalibus cellularum formato, perithecio evanescente aut tenui, parathecio evanescente aut modice evoluto (circ. 0.040—0.050 mm crasso). Sporae murales. Gonidia bene aut sat bene mucosa.

Luzon, Subprov. Apayao, mons Sulu, *Bur. Sci. 28458 E. Fénix.* Subprov. Benguet, mons Pulog, *Bur. Sci. 8963 McGregor*, Pauai, alt. circ. 2100 m s. m., *Bur. Sci. 8573, 8590* (f. margine propagulifera), *8617, 8618, 8621 McGregor*; Subprov. Bataan, mons Mariveles, *Merrill 6283, 6284*, Limay, *Bur. Sci. 9625, 9635 Robinson*; Subprov. Rizal, Bosoboso, *Bur. Sci. 1179 Ramos*; Subprov. Laguna, *Bur. Sci. 23295 McGregor*, mons Banajao, *Bur. Sci. 9774 Robinson*; Subprov. Tayabas, mons Binuang, *Bur. Sci. 28954 M. Ramos* et *G. Edaño*, Siniloan, *Bur. Sci. 9483 Robinson.* Polillo, *Bur. Sci. 10482, 10483 McGregor.* Mindanao, Distr. Zamboanga, *Merrill 8346, 8352*; Distr. Butuan, *Weber 1371*; Castra Keithley prope lacum Lanao, *Clemens 1312*; Distr. Davao, mons Apo, 6000 p. s. m., *Copeland 1084.* Panay, Subprov. Antique, *Bur. Sci. 32598, 32602 McGregor.* Balabac, *Bur. Sci. 529 Mangubat.* Biliran, *Bur. Sci. 18423, 18431 McGregor.* Ad truncos arborum et in rupibus et supra muscos rupium.

Var. **subrugosa** Vain.

Thallus superne sat laevigatus, inferne increbre subnervoso-rugulosus, rugis tenuibus, humilibus, leviter ramosis, obtusis, longitudinalibus, intus mucosus, 0.100—0.160 mm crassus. Apothecia margine pallido aut rufescente. Stratum corticale excipuli in margine e seriebus cellularum horizontalibus nonnullis, ceterum e seriebus pluribus formatum. — In var. *laeviorem* transit.

Luzon, Subprov. Lepanto, Malaya, *Bona 155*; Subprov. Laguna, *Bur. Sci. 23290 McGregor*; Subprov. Pangasinan, mons S. Isidoro, *Bur. Sci. 30147 E. Fénix.* Biliran, *Bur. Sci. 18435 McGregor.* Supra muscos rupium et in ipsa rupe. Fert.

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Var. **pichnea** (Ach.) Vain. *Collema tremelloides* c. *pichneum* Ach., Syn. Lich. (1814) 343 (in specimine orig. thallus superne laevigatus, isidiosus, inferne parce longitudinaliter rugulosus).

Thallus crassit. circ. 0.140 mm, superne et inferne laevigatus aut inferne leviter rugulosus, superne et margine partim isidiosus, vulgo caesio-cinerascens. Apothecia margine vulgo thallo concolore, caesio-cinerascente aut raro cinereo-pallido. Stratum corticale in margine excipuli e serie simplice (aut raro partim e serie duplice) horizontali cellularum formatum.

Luzon, Subprov. Benguet, mons Pauai, *Merrill 6645*; Subprov. Rizal, mons Susong-Dalaga, *Bur. Sci. 29457 M. Ramos* et *G. Edaño*; Subprov. Bataan, Limay, *Bur. Sci. 9629 Robinson*. Fert. Ad corticem *Zizyphi* et aliarum arborum. Fert.

Var. **trachyna** Vain.

Thallus partim superne et margine isidiosus, superne et inferne rugulosus, rugis humilibus, crebris, longitudinalibus, subsimplicibus, vulgo acutis. Margo apotheciorum thallo concolor, strato corticali e serie simplice horizontali cellularum formato. — *L. rugulosum* (Nyl.) margine apotheciorum rufescenti-pallido et strato corticali marginis magis evoluto ab hac varietate differt (secund. specim. 41455 e Mexico in herb. Nyl., specim. orig. e Nova Caledonia herbario Nyl. deest).

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bus et partim verruculis et initiis isidiorum instructo. Stratum corticale in margine excipuli e seriebus horizontalibus nonnullis cellularum formatum et in maculis cinerascentibus in verrucas et isidia excrescentibus e serie simplice cellularum constans. Perithecium et parathecium modice evoluta aut tenuia. Hymenium circ. 0.150 mm crassum. Sporae 8:nae, fusiformes, apicibus obtusis aut acutis, murales, septis transversis 3—5, long. circ. 0.020—0.028, crass. 0.011—0.012 mm, membrana haud gelatinosa. — *L. consimile* thallo laevigato, isidiis angustioribus et margine apotheciorum laevigato ab hac specie differt. *L. leptophyllinum* (Mey. et Flot.) Vain. (*L. denticulatum* Nyl.) thallo haud isidioso et margine apotheciorum distinctius denticulato ab ea distinguitur.

Mindanao, Distr. Butuan, *Weber 1361* pr. p. Ad corticem *Fici*.

10. **L. fallax** Müll. Arg. Lich. Beitr. (Fl. 1882) n. 373.

Thallus foliaceus, crassit. circ. 0.280—0.400 mm, laciniatus lobatusque, superne et inferne crebre aut increbre rugulosus, rugis sat acutis, isidiis destitutus, caesio-cinerascens, intus bene mucosus, hyphis laxe contextis. Apothecia circ. 2.5—4 mm lata, sessilia, disco testaceo-rufescente, opaco, nudo, margine duplice, amphithecio thallino-dilatato, laciniato. Perithecium circ. 0.070 mm crassum, subchondroideum, sat pachydermaticum, cavitatibus cellularum sat parvis, irregularibus, pallidum, parathecio bene evoluto, circ. 0.160 mm crasso, grosse parenchymatico, leptodermatico. Stratum corticale amphithecii infra apothecium e seriebus horizontalibus numerosis formatum, grosse parenchymaticum. Hymenium circ. 0.160 mm crassum. Epithecium testaceum. Sporae 8:nae, distichae, fusiformes, apicibus sat obtusis, murales, septis transversis 5, long. circ. 0.032—0.034, crass. 0.011—0.016 mm, membrana haud gelatinosa. — A *L. Lafayetteano* Vain. lobis thalli latioribus et thallo distinctius ruguloso differt et a *L. inflexo* Nyl. thallo subtus glabro distinguitur. *L. dimorphum* Müll. Arg., Lich. Beitr. (Fl. 1881) n. 228, sporis majoribus ab eo recedit.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 9812 Robinson*. Ad truncum arboris.

Distr. Zamboanga, Banga, *For. Bur. 9058* pr. p. *Whitford* et *Hutchinson*. In arboribus et supra muscos rupium.

15. **L. (Leptogiopsis) pacificum** Vain. sp. nov.

Thallus crass. circ. 0.060—0.070 mm, superne increbre obtuseque subreticulato-rugosus, foveolatus, caesio- vel olivaceo-cinerascens, subtus pustulatus, glaber. Apothecia 2.2—1 mm lata, basi constricta, thallo leviter bullato-inflato substipitata aut fere sessilia, disco plano, rufo, opaco, margine pallido aut rufescente, integro. Excipulum strato corticali sat grosse parenchymatico, crasso, e seriebus pluribus horizontalibus cellularum formato, strato medullari gonidia nostocacea continente. Perithecium evanescens infra hypothecium, parathecio sat grosse parenchymatico, leviter evoluto. Hymenium crass. circ. 0.110 mm, jodo persistenter caerulescens. Sporae 8:nae, distichae, fusiformes, apicibus acutis aut raro altero apice obtuso, 5-septatae, membrana haud gelatinosa, long. 0.026—0.032, crass. 0.006—0.007 mm. — Habitu omnino simile est *L. olivaceo* (Tayl.) Vain. (*L. foveolato* Nyl.), quod sporis muralibus ab eo differt. *L. reticulatum* Mont. thallo dissimili, superne crebre costato-reticulato, costis tenuibus acutisque ab eo bene differt (secund. specim. orig. in herb. Nyl.).

Luzon, Subprov. Bontoc, *Vanoverbergh 960*. Fert. In rupe.

6. **Physma** Mass.

Sect. 1. **Euphysma** Vain.

Thallus subtus tomento aut rhizinis instructus.

1. **Ph. byrsinum** (Ach.) Müll. Arg. Lich. Beitr. (Fl. 1885) n. 987.

Var. **plumbea** (Schaer.) Vain. *Ph. byrsinum* Hue Physma (Bull. Soc. Linn. Norm. 1905) 14; Vain. Addit. Lich. Antill. (1914) 111.

Thallus subtus albidus aut cinerascens aut pallidus, rhizinis concoloribus aut fuscescentibus rufescentibusve, superne cinereus aut pallido- aut fuscescenti-cinereus aut partim demum nigricans, subtiliter creberrime reticulato-rugulosus aut partim sat laevigatus. Sporae simplices, subglobosae aut parcius ellipsoideae, long. 0.019—0.022 (raro 0.028) mm, crass. 0.014—0.018 mm, exosporio

bus et partim verruculis et initiis isidiorum instructo. Stratum corticale in margine excipuli e seriebus horizontalibus nonnullis cellularum formatum et in maculis cinerascentibus in verrucas et isidia excrescentibus e serie simplice cellularum constans. Perithecium et parathecium modice evoluta aut tenuia. Hymenium circ. 0.150 mm crassum. Sporae 8:nae, fusiformes, apicibus obtusis aut acutis, murales, septis transversis 3—5, long. circ. 0.020—0.028, crass. 0.011—0.012 mm, membrana haud gelatinosa. — *L. consimile* thallo laevigato, isidiis angustioribus et margine apotheciorum laevigato ab hac specie differt. *L. leptophyllinum* (Mey. et Flot.) Vain. (*L. denticulatum* Nyl.) thallo haud isidioso et margine apotheciorum distinctius denticulato ab ea distinguitur.

Mindanao, Distr. Butuan, *Weber 1361* pr. p. Ad corticem *Fici*.

10. **L. fallax** Müll. Arg. Lich. Beitr. (Fl. 1882) n. 373.

Thallus foliaceus, crassit. circ. 0.280—0.400 mm, laciniatus lobatusque, superne et inferne crebre aut increbre rugulosus, rugis sat acutis, isidiis destitutus, caesio-cinerascens, intus bene mucosus, hyphis laxe contextis. Apothecia circ. 2.5—4 mm lata, sessilia, disco testaceo-rufescente, opaco, nudo, margine duplice, amphithecio thallino-dilatato, laciniato. Perithecium circ. 0.070 mm crassum, subchondroideum, sat pachydermaticum, cavitatibus cellularum sat parvis, irregularibus, pallidum, parathecio bene evoluto, circ. 0.160 mm crasso, grosse parenchymatico, leptodermatico. Stratum corticale amphithecii infra apothecium e seriebus horizontalibus numerosis formatum, grosse parenchymaticum. Hymenium circ. 0.160 mm crassum. Epithecium testaceum. Sporae 8:nae, distichae, fusiformes, apicibus sat obtusis, murales, septis transversis 5, long. circ. 0.032—0.034, crass. 0.011—0.016 mm, membrana haud gelatinosa. — A *L. Lafayetteano* Vain. lobis thalli latioribus et thallo distinctius ruguloso differt et a *L. inflexo* Nyl. thallo subtus glabro distinguitur. *L. dimorphum* Müll. Arg., Lich. Beitr. (Fl. 1881) n. 228, sporis majoribus ab eo recedit.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 9812 Robinson.* Ad truncum arboris.

Distr. Zamboanga, Banga, *For. Bur. 9058* pr. p. *Whitford* et *Hutchinson*. In arboribus et supra muscos rupium.

15. **L. (Leptogiopsis) pacificum** Vain. sp. nov.

Thallus crass. circ. 0.060—0.070 mm, superne increbre obtuseque subreticulato-rugosus, foveolatus, caesio- vel olivaceo-cinerascens, subtus pustulatus, glaber. Apothecia 2.2—1 mm lata, basi constricta, thallo leviter bullato-inflato substipitata aut fere sessilia, disco plano, rufo, opaco, margine pallido aut rufescente, integro. Excipulum strato corticali sat grosse parenchymatico, crasso, e seriebus pluribus horizontalibus cellularum formato, strato medullari gonidia nostocacea continente. Perithecium evanescens infra hypothecium, parathecio sat grosse parenchymatico, leviter evoluto. Hymenium crass. circ. 0.110 mm, jodo persistenter caerulescens. Sporae 8:nae, distichae, fusiformes, apicibus acutis aut raro altero apice obtuso, 5-septatae, membrana haud gelatinosa, long. 0.026—0.032, crass. 0.006—0.007 mm. — Habitu omnino simile est *L. olivaceo* (Tayl.) Vain. (*L. foveolato* Nyl.), quod sporis muralibus ab eo differt. *L. reticulatum* Mont. thallo dissimili, superne crebre costato-reticulato, costis tenuibus acutisque ab eo bene differt (secund. specim. orig. in herb. Nyl.).

Luzon, Subprov. Bontoc, *Vanoverbergh 960*. Fert. In rupe.

6. **Physma** Mass.

Sect. 1. **Euphysma** Vain.

Thallus subtus tomento aut rhizinis instructus.

1. **Ph. byrsinum** (Ach.) Müll. Arg. Lich. Beitr. (Fl. 1885) n. 987.

Var. **plumbea** (Schaer.) Vain. *Ph. byrsinum* Hue Physma (Bull. Soc. Linn. Norm. 1905) 14; Vain. Addit. Lich. Antill. (1914) 111.

Thallus subtus albidus aut cinerascens aut pallidus, rhizinis concoloribus aut fuscescentibus rufescentibusve, superne cinereus aut pallido- aut fuscescenti-cinereus aut partim demum nigricans, subtiliter creberrime reticulato-rugulosus aut partim sat laevigatus. Sporae simplices, subglobosae aut parcius ellipsoideae, long. 0.019—0.022 (raro 0.028) mm, crass. 0.014—0.018 mm, exosporio

gelatinoso, 0.002—0.004 mm crasso, increbre leviter gibboso, raro in apicem acutum elongato.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7996*. Insulae Marianae, Guam, *McGregor 611*. Ad truncos arborum. — Ad statum in v. *hypomelaenam* transeuntem, thallo subtus partim nigricante et rhizinis nigricantibus instructo, partim pallidiore ab his varietatibus differentem specimina in his stationibus lecta pertinent: Luzon, Subprov. Cagayan, *For. Bur. 19652 Curran;* Subprov. Benguet, *Bur. Sci. 13505 Ramos*; Subprov. Bataan, mons Mariveles, alt. 1200 m, *Whitford 436*. Panay, Subprov. Antique, *Bur. Sci. 32601, 32617 McGregor*. Mindanao, Distr. Lanao, castra Keithley prope lacum Lanao, *Mary Strong Clemens 1307*; Distr. Zamboanga, alt. circ. 1670 m, *Copeland litt. "H"*, Banga, *For. Bur. 9044 Whitford* et *Hutchinson*. Insulae Marianae, Guam, *McGregor 602*.

Var. **hypomelaena** Nyl. *Ph. Boryanum* f. *hypomelaenum* Hue, l c. 12.

Thallus subtus nigricans aut ad ambitum cinerascens pallidusve, rhizinis concoloribus, superne cinereus aut pallido- aut fuscescenti-cinereus aut partim nigricans, subtiliter creberrime reticulato-rugulosus aut partim sat laevigatus. Hymenium circ. 0.20—0.17 mm crassum. Sporae simplices, subglobosae aut ellipsoideae aut raro fusiformes, long. 0.018—0.026, crass. 0.013—0.016 mm, exosporio gelatinoso, 0.003—0.004 mm crasso, increbre leviter gibboso, raro in apicem acutum excrescente.

Luzon, Subprov. Laguna, *Bur. Sci. 23298* p. p. *McGregor*; Subprov. Benguet, alt. 1500 m, *Merrill 7988, 7998*. Mindanao, Distr. Butuan, *Weber 1380*. Panay, Subprov. Antique, *Bur. Sci. 32603 McGregor*. Ad truncos arborum.

2. **Ph. radians** Vain. sp. nov.

Thallus crassus (humidus crassit. 0.8—0.9 mm), iteratim subdichotome laciniatus, laciniis 5—1.5 mm latis, discretis, substrato increbre affixis, superne vulgo convexis, longitudinaliter increbre rugosis, rugis circ. 0.3—0.2 mm latis aut partim tenuioribus, subsimplicibus, parallelis, ceterum laevigatus nec reticulato-rugulosus, cinereo- aut fuscescenti-pallidus, haud pruinosus, subtus pallidus aut partim demum fuscescens, tomento brevi, 0.1—0.4 mm longo, crebro, fusco aut nigricante, ex hyphis 0.003—0.005 mm crassis, sat lep-

praesertim ambitum versus et supra verrucas instructus. Apothecia margine thallode radiatim transversimve ruguloso et verrucoso, thallo consimili.

Polillo, *Bur. Sci. 10480 McGegor.* Ad truncum arboris.

7. **Collema** (Hill) Fr.

1. **C. (Collemodiopsis) rupestre** (L.) Vain. Lich. Caucas. (1899) 310. *C. flaccidum* (Ach.) Nyl. Syn. Lich. 107.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12776* pr. p. *Fénix.* Panay, distr. Iloilo, Larena, alt. 820 m, *Bur. Sci. 18210* pr. p. *Robinson*, ad corticem *Fici.* Palawan, Taytay, *Merrill 9028* pr. p., ad corticem *Antidesmae ghesambillae.* Ster.

2. **C. punctatum** Vain. sp. nov.

Thallus tenuis, crass. 0.05—0.06 mm, irregulariter rotundato-lobatus, lobis circ. 15—2 mm latis, subintegris, olivaceo- aut cinerascenti- aut glaucescenti-nigricans, superne increbre minute foveolatus, increbre costato-plicatus, costis irregularibus, plus minusve elevatis, obtusis, subtus canaliculato-concavis et sat crebre trabeculis brevissimis clausis, gomphis brevissimis numerosis substrato affixus, isidiis destitutus, haud perforatus, jodo non reagens. Apothecia vulgo numerosa et sat crebra, 1—0.5 (—1.5) mm lata, peltata basique bene constricta, disco rufescente aut pallido, tenuiter aut tenuissime caesio-pruinoso aut rarius demum denudato, persistenter plano aut demum convexo, margine tenui, integro, fere concolore pruinosoque aut nudo thalloque concolore. Excipulum strato corticali in parte superiore e serie subsimplice aut e seriebus duabus horizontalibus et inferne e seriebus pluribus cellularum, sat grosse parenchymaticarum formato (inferne circ. 0.05—0.06 mm crasso), circa apothecia supra thallum continuato, at infra stratum medullare thalli haud evoluto. Perithecium infra hypothecium evanescens aut e serie simplice cellularum formatum, parathecio modice evoluto aut sat tenui, sat grosse parenchymatico. Hypothecium pallidum. Hymenium circ. 0.11 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut pallidum. Sporae 8:nae, polystichae, fusiformes aut aciculari-fusiformes, apicibus acutis aut sat obtusis, sat

gelatinoso, 0.002—0.004 mm crasso, increbre leviter gibboso, raro in apicem acutum elongato.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7996*. Insulae Marianae, Guam, *McGregor 611*. Ad truncos arborum. — Ad statum in v. *hypomelaenam* transeuntem, thallo subtus partim nigricante et rhizinis nigricantibus instructo, partim pallidiore ab his varietatibus differentem specimina in his stationibus lecta pertinent: Luzon, Subprov. Cagayan, *For. Bur. 19652 Curran;* Subprov. Benguet, *Bur. Sci. 13505 Ramos*; Subprov. Bataan, mons Mariveles, alt. 1200 m, *Whitford 436*. Panay, Subprov. Antique, *Bur. Sci. 32601, 32617 McGregor*. Mindanao, Distr. Lanao, castra Keithley prope lacum Lanao, *Mary Strong Clemens 1307*; Distr. Zamboanga, alt. circ. 1670 m, *Copeland litt. "H"*, Banga, *For. Bur. 9044 Whitford* et *Hutchinson*. Insulae Marianae, Guam, *McGregor 602*.

Var. **hypomelaena** Nyl. *Ph. Boryanum* f. *hypomelaenum* Hue, l c. 12.

Thallus subtus nigricans aut ad ambitum cinerascens pallidusve, rhizinis concoloribus, superne cinereus aut pallido- aut fuscescenti-cinereus aut partim nigricans, subtiliter creberrime reticulato-rugulosus aut partim sat laevigatus. Hymenium circ. 0.20—0.17 mm crassum. Sporae simplices, subglobosae aut ellipsoideae aut raro fusiformes, long. 0.018—0.026, crass. 0.013—0.016 mm, exosporio gelatinoso, 0.003—0.004 mm crasso, increbre leviter gibboso, raro in apicem acutum excrescente.

Luzon, Subprov. Laguna, *Bur. Sci. 23298* p. p. *McGregor*; Subprov. Benguet, alt. 1500 m, *Merrill 7988, 7998*. Mindanao, Distr. Butuan, *Weber 1380*. Panay, Subprov. Antique, *Bur. Sci. 32603 McGregor*. Ad truncos arborum.

2. **Ph. radians** Vain. sp. nov.

Thallus crassus (humidus crassit. 0.8—0.9 mm), iteratim subdichotome laciniatus, laciniis 5—1.5 mm latis, discretis, substrato increbre affixis, superne vulgo convexis, longitudinaliter increbre rugosis, rugis circ. 0.3—0.2 mm latis aut partim tenuioribus, subsimplicibus, parallelis, ceterum laevigatus nec reticulato-rugulosus, cinereo- aut fuscescenti-pallidus, haud pruinosus, subtus pallidus aut partim demum fuscescens, tomento brevi, 0.1—0.4 mm longo, crebro, fusco aut nigricante, ex hyphis 0.003—0.005 mm crassis, sat lep-

praesertim ambitum versus et supra verrucas instructus. Apothecia margine thallode radiatim transversimve ruguloso et verrucoso, thallo consimili.

Polillo, *Bur. Sci. 10480 McGegor.* Ad truncum arboris.

7. **Collema** (Hill) Fr.

1. **C. (Collemodiopsis) rupestre** (L.) Vain. Lich. Caucas. (1899) 310. *C. flaccidum* (Ach.) Nyl. Syn. Lich. 107.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12776* pr. p. *Fénix.* Panay, distr. Iloilo, Larena, alt. 820 m, *Bur. Sci. 18210* pr. p. *Robinson*, ad corticem *Fici.* Palawan, Taytay, *Merrill 9028* pr. p., ad corticem *Antidesmae ghesambillae.* Ster.

2. **C. punctatum** Vain. sp. nov.

Thallus tenuis, crass. 0.05—0.06 mm, irregulariter rotundato-lobatus, lobis circ. 15—2 mm latis, subintegris, olivaceo- aut cinerascenti- aut glaucescenti-nigricans, superne increbre minute foveolatus, increbre costato-plicatus, costis irregularibus, plus minusve elevatis, obtusis, subtus canaliculato-concavis et sat crebre trabeculis brevissimis clausis, gomphis brevissimis numerosis substrato affixus, isidiis destitutus, haud perforatus, jodo non reagens. Apothecia vulgo numerosa et sat crebra, 1—0.5 (—1.5) mm lata, peltata basique bene constricta, disco rufescente aut pallido, tenuiter aut tenuissime caesio-pruinoso aut rarius demum denudato, persistenter plano aut demum convexo, margine tenui, integro, fere concolore pruinosoque aut nudo thalloque concolore. Excipulum strato corticali in parte superiore e serie subsimplice aut e seriebus duabus horizontalibus et inferne e seriebus pluribus cellularum, sat grosse parenchymaticarum formato (inferne circ. 0.05—0.06 mm crasso), circa apothecia supra thallum continuato, at infra stratum medullare thalli haud evoluto. Perithecium infra hypothecium evanescens aut e serie simplice cellularum formatum, parathecio modice evoluto aut sat tenui, sat grosse parenchymatico. Hypothecium pallidum. Hymenium circ. 0.11 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut pallidum. Sporae 8:nae, polystichae, fusiformes aut aciculari-fusiformes, apicibus acutis aut sat obtusis, sat

rectae, 5—7-septatae, long. 0.037—0.057, crass. 0.004—0.007 mm. — Thallo superne foveolato et costato, nec pustulato differt a *C. glaucocarpo* (Nyl.) Hue, Anat. Collem. (Journ. Bot. 1906) 34, et a *C. respertilione* (Lightf.) Vain., quod posterius etiam strato corticali parenchymatico excipuli haud evoluto aut passim demum in basi infima apothecii e seriebus 1—2 horizontalibus cellularum formato subevanescenteque ab eo recedit. *C. nigrescens* (Leers.) Vain. jam thallo isidioso ab his omnibus distinguitur et secundum specimen in Limoge Galliae a Lamy lectum strato corticali parenchymatico in parte inferiore apothecii e seriebus horizontalibus 2—3 continuis cellularum formato et in margine haud evoluto, at circa apothecia supra thallum continuato, instructum est, quare Vain. Lich. Bras. Exs. 237 ad eandem speciem pertinet. *C. nigrescens* Ach. male est limitatum et secundum herb. Ach. maxima parte ad *C. respertilionem* Vain. et minore parte ad *C. rupestre* (L.) et *C. nigrescens* Vain. spectat. *C. actinoptychum* Nyl. *C. punctato* proxime est affine et thallo superne haud foveolato-punctato et septis magis numerosis sporarum ab eo differt.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7976*. Mindanao, Distr. Butuan, *Weber 1368*. Palawan, Taytay, *Bur. Sci. 9028* pr. p. *Merrill*. In arboribus. Fert.

3. **C. actinoptychum** Nyl. Syn. Lich. Nov. Cal. (1868) p. 5 (n. 41881 in hb. Nyl.), verisimiliter haud Krempelh. Lich. Born. (1875) 9.

Thallus tenuis, crass. 0.05—0.06 mm, irregulariter rotundato-lobatus, lobis circ. 10—3 (—1) mm latis, subintegris, superne olivaceo- aut glaucescenti-nigricans, irregulariter increbre plicatus aut parce costatus, plicis et costis saepe demum valde elevatis, sat obtusis, subtus canaliculato-concavis, parce trabeculis brevissimis clausis, ceterum sat laevigatus, isidiis destitutus, subtus subconcolor aut cinereo-glaucescens, glaber aut gomphis minutis, brevissimis, pluribus sparsisque substrato affixus, haud perforatus, jodo non reagens. Apothecia vulgo sparsa, 2—0.7 mm lata, peltata, elevata, basi bene constricta, disco livido-rufescente aut livido-testaceo, tenuiter caesio-pruinoso aut rarius demum fere denudato, vulgo plano, margine

tenui, integro, caesio-pruinoso aut demum subdenudato, disco fere concolore. Excipulum strato corticali evanescente (in n. 19167) aut e serie simplice cellularum formato (in n. 1423) in margine et e seriebus pluribus horizontalibus cellularum constante parenchymaticoque in parte inferiore apothecii, circa apothecia supra et infra stratum medullare thalli continuato aut infra thallum haud evoluto. Perithecium infra hypothecium tenue aut evanescens, parathecio distincto aut evanescente. Hypothecium pallidum aut subalbidum. Hymenium circ. 0.110—0.100 mm crassum, jodo persistenter caerulescens. Epithecium rufescens. Sporae 8:nae, polystichae, fusiformi-aciculares aut fusiformes, apicibus acutis aut obtusis, sat rectae, 5—10-septatae, decolores, long. 0.034—0.066, crass. 0.0035—0.007 mm. Pycnoconidangia thallo immersa, verrucas hemisphaericas, circ. 0.120 mm latas formantia. Sterigmata irregularia, crass. 0.003—0.004 mm, crebre septata, constricte articulata, apicibus rotundatis et lateribus conidia efferentibus. Conidia oblonga aut apices versus paulum incrassata, recta, apicibus rotundatis aut altero apice obtuso, long. 0.003—0.0025, crass. 0.0007—0.0005 mm.

Luzon, Subprov. Bataan, *For. Bur. 19167 Curran.* Mindanao, Distr. Butuan. *Weber 1423.* Ad truncos arborum.

4. **C. (Synechoblastus) Mac-Gregorii** Vain. sp. nov.

Thallus crass. 0.110—0.095 mm, foliaceus, irregulariter rotundato-lobatus, lobis circ. 10—2 mm latis, subintegris, superne olivaceo-nigricans, crebre costato-plicatus, costis sat obtusis, longitudinalibus, parum reticulato-connatis, subtus canaliculato-concavis et trabeculis brevissimis crebre clausis aut marginibus partim connatis et aperturas vel foveolas irregulares inter margines liberas formantibus, isidiis destitutus, parce perforatus, mucosus, jodo fulvo-rubescens, gomphis brevissimis numerosis substrato affixus. Apothecia demum vulgo crebra, 1—0.5 (—1.2) mm lata, peltata, elevata, basi constricta, disco rufo aut testaceo-rufescente aut fusco, nudo, sat opaco, plano aut demum convexo, margine tenui, integro, thallo concolore. Excipulum strato corticali destitutum. Perithecium grosse parenchymaticum infra hypothecium, parathecio evanescente aut rarius

evoluto. Hypothecium pallidum. Epithecium rufescens aut pallido-rufescens. Hymenium circ. 0.100 mm crassum, jodo persistenter caerulescens. Paraphyses septis paucis instructae. Sporae 8:nae, polystichae, fusiformes, apicibus sat acutis, rectae, 5—7-septatae, long. 0.037—0.060, crass. 0.005—0.007 mm. — Affine est *C. glaucophthalmo* Nyl. var. *granatensi* Hue (Anat. Coll. 8), quod apotheciis pruinosis, septis sporarum numerosis, jugis costarum thalli magis reticulato-connatis ab eo differt.

Luzon, Subprov. Benguet, inter Lutab et Kabayan, *Bur. Sci. 8785 McGregor.* In arboribus.

Trib. 10. LECIDEAE

1. **Cladonia** (Hill) Web.

1. **Cl. sylvatica** (L.) Rabenh.

Var. **sylvestris** Oed. Vain. Mon. Clad. Univ. I (1887) 20, III (1897) 222.

Luzon, Subprov. Bontoc, Bauco, alt. 1300 m, *Vanoverbergh 248*; Subprov. Benguet, mons Pulog, alt. 9300 ped., *For. Bur. 16363, 16374 Curran, Merritt, Zschokke.* Mindoro, mons Halcon, *Merrill 5561.* Ad terram et supra muscos rupium, saepe *Cl. aggregatae* immixta.

2. **Cl. pycnoclada** (Gaudich.) Nyl.

Var. **flavida** Vain. l. c. I 38, II 439, III 223.

Luzon, Subprov. Benguet, Pauai, *Merrill 6658.* Supra muscos rupium.

3. **Cl. aggregata** (Sw.) Ach. Vain. l. c. III 223.

Luzon, Subprov. Benguet, mons Pulog, alt. 8400—9000 ped., *Merrill 6441, 6450, For. Bur. 16369, 16370, 16372 Curran, Merritt, Zschokke,* Pauai, *Merrill 6659, 6664.* Mindoro, mons Halcon, alt. 4500 ped., *Merrill 6215.* Supra muscos rupium. — Sumatra, Asahan, *H. H. Bartlett* et *C. D. La Rue 502.*

F. **straminea** Müll. Arg. Vain. l. c. I 230, III 223.

Luzon, Subprov. Benguet, mons Pulog, *Merrill 6456,* Pauai, *Copeland 1391.* Supra muscos (Hepaticas) rupium locis umbrosis.

4. **Cl. Floerkeana** (Fr.) Sommerf.

Var. **chloroides** (Floerk.) Vain. l. c. I 76, III 226.

Luzon, Subprov. Bontoc, *Vanoverbergh 1055*; Subprov. Benguet, *Sanchez 5,* Pauai, *Merrill 6662,* Bugias, *Merrill 4977.* Mindanao, Distr. Davao

mons Apo, alt. circ. 2000 m, *Copeland 1158*. Negros, vulcanus Canlaon, *Merrill 6879*. Ad plantas destructas in rupibus et ad lignum putridum et ad corticem *Pini insularis*. Fert.

F. **intermedia** Hepp. Vain. l. c. I 78, II 441, III 226.

Negros, vulcanus Canlaon, alt. circ. 1300 m, *Merrill 6879* pr. p. Ad truncum vetustum prostratum arboris. Cum v. *chloroide* parce lecta. Fert.

Var. **carcata** (Ach.) Nyl. Vain. l. c. I 80, II 441, III 226.

Luzon, Subprov. Bontoc, *Vanoverbergh 1055* pr. p.; Subprov. Benguet, Bugias, *Merrill 4977* pr. p. Ad plantas destructas in rupe et ad lignum putridum trunci prostrati. Parce cum v. *chloroide* lecta. Fert.

5. ***Cl. bacillaris** Nyl. Vain. l. c. I 88. II 441, III 226.

Luzon, Subprov. Benguet, Pauai, *Copeland 1364*. Ad plantas destructas in rupe. Fert.

6. **Cl. didyma** (Fée) Vain. l. c. I 137, II 443, III 225.

Var. **muscigena** (Eschw.) Vain.

Podetia et squamae KHO non reagentia.

Mindoro, mons Halcon, *Merrill 6109* pr. p. Supra plantas destructas. Parce cum forma sequente. Fert.

F. **polydactyloides** (Müll. Arg.) Vain.

Mindoro, mons Halcon, *Merrill 6109* pr. p. Supra plantas destructas in rupe. Ster. et fert.

Var. **vulcanica** (Zolling.) Vain. l. c. I 145, II 225. *Cl. isidioclada* Mont. et v. d. Bosch Syll. Crypt. (1856) 336.

Podetia et squamae KHO intense lutescentia.

Luzon, Subprov. Benguet, *For. Bur. 15628 Curran*, Baguio, alt. 1400 m, *Robinson 14103*; Subprov. Zambales, mons Pinatubo, *Bur. Sci. 2608 Foxworthy*. Negros, vulcanus Canlaon, *Merrill 6891*. Supra plantas destructas et muscos in rupibus et ad terram et ad corticem *Pini insularis*. Fert. et ster.

7. **Cl. coccifera** (L.) Villd.

Var. **stemmatina** Ach. Vain. l. c. I 158, III 228.

Luzon, Subprov. Benguet, mons Pulog, *Merrill 6445, 6463, Bur. Sci. 8952 McGregor, For. Bur. 16377, 16379 Curran, Merritt, Zschokke*, Pauai, alt. circ. 2100 m, *Bur. Sci. 8623 McGregor*. Ad terram humosam et plantas destructas in rupibus. Etiam fert.

8. **Cl. furcata** (Huds.) Schrad.

F. **foliolosa** Del. Vain. l. c. I 333, II 450, III 239.

Luzon, Subprov. Benguet, mons Pulog, *Bur. Sci. 8965 McGregor*, Pauai, alt. circ. 2100 m, *Merrill 6657*, *Bur. Sci. 8651 McGregor*. Supra muscos et folia vetusta in montibus. Ster.

F. **desquamescens** Vain.

Podetiis late decorticatis a f. *foliolosa* Del. et podetiis haud granulosis a f. *adspersa* Floerk. differens.

Luzon, Subprov. Lepanto, mons Data, alt. 7000 ped., *Merrill 4974*, mons Pulog, *Merrill 6427*, *Bur. Sci. 8932 McGregor*, Pauai, alt. circ. 2100 m, *Bur. Sci. 8655 McGregor*, *Bur. Sci. 4435* pr. p. *Mearns*. Ad plantas destructas et terram in montibus. Ster.

9. **Cl. squamosa** (Scop.) Hoffm.

Luzon, Subprov. Benguet, Pauai, *Merrill 6658* pr. p. Supra muscos rupium parce cum *Cl. pycnoclada* lecta. Ster.

10. **Cl. gracilis** (L.) Villd.

F. **aspera** Floerk.

Luzon, Subprov. Benguet, mons Pulog, alt. 9300 ped., *For. Bur. 16376*, *Curran*, *Merritt*, *Zschokke*. Supra muscos in rupe. Ster.

11. **Cl. pityrea** (Floerk.) Fr.

Var. **Zwackhii** Vain. l. c. II (1894) 354, III 255.

F. **scyphifera** (Del.) Vain.

Luzon, Subprov. Benguet, mons Pulog, *For. Bur. 16373 Curran*, *Merritt*, *Zschokke*; Subprov. Nueva Vizcaya, *Bur. Sci. 20233 McGregor*. Mindanao, Distr. Lanao, castra Keithley, *Mary Strong Clemens 1323* pr. p. Ad terram arenosam et humosam. Fert.

F. **crassiuscula** (Coem.) Vain.

Luzon, Subprov. Zambales, *Bur. Sci. 5153 Ramos*. Mindanao, Distr. Lanao, castra Keithley, alt. 800 m, *Mary Strong Clemens 25* pr. p. Ad terram arenosam. Ster.

F. **subuliformis** Vain.

Luzon, Subprov. Benguet, mons Pulog, *Bur. Sci. 8953 McGregor*, Pauai, *Merrill 6663*, Bugias. *Merrill 4953*. Ad terram arenosam et humosam et truncum prostratum arboris. Fert.

F. **phyllophora** (Mudd) Vain.

Luzon, Subprov. Benguet, Baguio, alt. 1430 m, *Bur. Sci. 14031 Robinson*; Subprov. Laguna, *Bur. Sci. 9708 Robinson*. Ad terram humosam. Fert.

F. **cladomorpha** Floerk.

Luzon. Subprov. Ifugao, mons Polis, *Bur. Sci. 20354* pr. p. *McGregor*; Subprov. Benguet, *Bur. Sci. 5487 Ramos*, Baguio, alt. 1450 m, *Bur. Sci. 14066 Robinson*. Negros, vulcanus Canlaon, alt. 4800 ped., *Merrill 6873*. Mindanao, Distr. Lanao, castra Keithley, *Mary Strong Clemens 1323* pr. p. Ad terram humosam et arenosam et truncos arborum. Ster.

F. **hololepis** (Floerk.) Vain.

Luzon, Subprov. Benguet, mons Pulog, *Merrill 6439*, Pauai, *Bur. Sci. 4435* pr. p. *Mearns*; Subprov. Nueva Vizcaya, *Bur. Sci. 20247 McGregor*. Mindanao, Distr. Lanao, castra Keithley, alt. 800 m, *Mary Strong Clemens 25* pr. p., *1323* pr. p., "*C*" pr. p. Ad terram humosam et arenosam. Ster.

F. **subacuta** Vain.

Luzon, Subprov. Benguet, *Sanchez 13*, *Bur. Sci. 5879* pr. p. *Ramos*; Subprov. Zambales, mons Pinatubo, *Bur. Sci. 2545 a Foxworthy*. Ad corticem *Pini insularis* et ad terram. Etiam fert.

F. **squamulifera** Vain.

Luzon, Subprov. Benguet, *For. Bur. 15630 Curran*, *Merrill 7965*, Pauai, *Mary Strong Clemens* 9321; Subprov. Nueva Vizcaya, *Bur. Sci.* 20246 *McGregor*; Subprov. Rizal, *Bur. Sci. 19308 J. Reillo*. Panay, Subprov. Iloilo, *Bur. Sci. 18222 Robinson*. Mindanao, Distr. Zamboanga, alt. 2800 ped., *Copeland* "*B*" (pr. p. f. *hololepis*). Ad corticem et truncos *Pini insularis*, ad terram arenosam et plantas destructas. Fert. et ster.

Var. **javanica** (Hepp) Vain. Mon. Clad. Univ. II p. 369.

Luzon, Subprov. Rizal, mons Lumutan, *Bur. Sci. 29830 Ramos* et *Edaño*. Ad terram arenosam in silva.

Var. **philippina** Vain.

Thallus primarius constans e squamis parvis aut sat parvis, circiter 1—3 mm longis, esorediosis aut subtus granuloso-sorediosis. Podetia e superficie thalli primarii enata, long. 6—20, crass. 0.5—1 mm, ascypha aut parce irregulariter subscyphifera, subsimplicia aut subdichotome ramosa aut apicem versus breviter subfasciculato-ramosa, ramis sterilibus subulatis, cinereo-glaucescentia aut glaucescenti-albida, KHO haud reagentia, continue corticata, soraliis

rotundatis, elevatis, farinosis, partim e squamis formatis in soredia totis fatiscéntibus, passim praesertimque apicem versus instructa, increbre squamosa, squamis parvis aut sat parvis, esorediosis aut subtus sorediosis aut partim in soredia fatiscentibus. Apothecia circ. 1.5—3 mm lata, testacea aut pallida, convexa. — Soraliis a v. *javanica* (Hepp) Vain. differt.

Luzon, Subprov. Benguet, *Bur. Sci. 13509* pr. p. *Ramos*, Sablang *Bur. Sci. 12794 Fénix*; Subprov. Rizal, Bosoboso, *Bur. Sci. 4625 Ramos*.

Var. **phyllopoda** Vain.

Thallus primarius persistens, constans e squamis vel foliis magnis, circ. 3—10 mm longis, 1.5—2.5 mm latis, incisis laciniatisve, esorediosis aut subtus increbre granuloso-sorediosis, superne glaucis, KHO haud aut leviter flavescentibus. Podetia e superficie prope apicem thalli primarii enata, long. 8—25 (—30), crass. 0.5—1.5 mm, apice scyphifera, scyphis 1—2 mm latis, leviter irregularibus, margine dentatis aut radiatis, clausis, maxima parte subcontinue aut subdisperse corticata, cortice glauco aut albido-glaucescente, parte superiore plus minusve sorediosa decorticataque, KHO leviter aut parum flavescentia, squamis destituta aut rarius squamosa (podetiis squamosis in v. *regenerantem* transiens). Apothecia fuscescenti-testacea. Pycnoconidangia marginibus scyphorum affixa, ovoidea, cinereo-fuscescentia. — Est quasi species autonoma, at podetiis nonnullis, e thallo primario parvo enatis, distincte in *Cl. pityream.* transit. *Cl. pityrea* v. *megathallina* Vain. (Hue Lich. Extra-Eur. 66) podetiis vulgo e medio thalli primarii enatis, squamosis, parce sorediosis ab ea differt.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20354* pr. p. (cum v *hololepide*) *McGregor.* Ad terram humosam.

Var. **regenerans** Vain.

Thallus primarius constans e squamis circ. 3—7 mm longis, incisis laciniatisve, esorediosis, saepe haud persistentibus. Podetia e superficie thalli primarii enata, long. 20—60, crass. 0.5—2 mm, scyphis angustis instructa, apicibus anguste scyphiferis aut proboscideis aut subulatis, increbre squamosa, squamis 1—7 mm longis,

laciniatis, esorediosis aut subtus sorediosis, apicem versus saepe unum podetium efferentibus et medio demum bene incrassatis, superne glaucescentibus, maxima parte corticata, cortice subcontinuo aut partim subdisperso, glauco, passim praesertimque apicem versus leviter sorediosa, KHO non reagentia. – Squamis magnis et partim proliferis a v. *phyllopoda* differt, at in eam transit.

Luzon, Subprov. Zambales, *For. Bur. 8182 Curran* et *Merritt*. Ad truncum putridum arboris. Ster.

12. **Cl. verticillata** Hoffm.

Var. **evoluta** Th. Fr.

Luzon, Subprov. Abra, *Bur. Sci. 7302 Ramos*; Subprov. Benguet, *Sanchez 2*, *Bur. Sci. 2843 Mearns*, *Bur. Sci. 5877*, *13509* pr. p. *Ramos*, mons Pulog, alt. 9500 ped., *Merrill 6443*, *6446*, *Bur. Sci. 8931* pr. p. (cum *Cl. coccifera*) *McGregor*, *For. Bur. 16378*, *16433 Curran*, *Merritt*, *Zschokke*, Pauai, alt. 6500 ped., *Merrill 4936*, *6656*, mons Tonglon, alt. 1700 m, *Merrill 7954*, Baguio, alt. circ. 1400 m, *Bur. Sci. 14096 Robinson*. Ad terram humosam et arenosam. Fert.

13. **Cl. calycantha** (Del.) Nyl.

Luzon, Subprov. Bontoc, *Vanoverbergh 721*; Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8559 McGregor*, *32064 J. K. Santos*; Subprov. Zambales, *Bur. Sci. 5148 Ramos*. Ad terram arenosam et humosam. Fert.

F. **foliolosa** Vain. l. c. II (1894) 203, III (1898) 259.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8559* pr. p. *McGregor*; Subprov. Zambales, *Bur. Sci. 5148* pr. p. *Ramos*. Ad terram arenosam et humosam. Fert.

14. **Cl. attendenda** Vain. sp. nov.

Thallus primarius squamis sat parvis, haud persistens. Podetia long. circ. 25—52, crass. 2.5—0.5 mm, scyphis 1.5—3.5 mm latis, sensim aut sat abrupte dilatatis, sat regularibus, diaphragmate cribroso clausis, cavitate haud profunda, margine denticulato aut radiato, e diaphragmate iteratim prolifera, prolificationibus eidem diaphragmati affixis solitariis, partim etiam margine scyphorum et latere podetiorum prolifera, tabulatis 2—3 (—4), circ. 10—32 mm altis, apicalibus normalibus aut proboscideis aut subulatis aut ferti-

libus et apotheciis parvis aut symphycarpeo-confluentibus terminata, erecta, cortice areolato, areolis circ. 0.5—1.5 mm latis, dispersis aut partim subconfluentibus, parum elevatis, planis, glaucis aut pallido-glaucescentibus, partibus decorticatis (inter areolas) pallidis aut fuscescentibus aut apicem versus albidis et basim versus late nigricantibus, (lente) haud distincte tomentosis, esorediosa, squamis squamulisque destituta aut parce fortuitoque squamulosa, haud isidiosa, KHO haud reagentia. Apothecia 4.5—0.7 mm lata, basi haud constricta, plana aut convexa, tenuiter marginata aut demum immarginata, rufa aut fusca. Pycnoconidangia in margine scyphorum aut in apicibus radiorum brevissimorum vel longiorum sita, ovoidea aut demum late ovoidea, basi constricta, fusca aut cinereo-fuscescentia. — *Cl. gymnopoda* Vain. podetiis verruculoso-corticatis squamulosisque, *Cl. Isabellina* Vain. podetiis subcontinue corticatis, *Cl. gracilescens* (Floerk.) podetiis KHO lutescentibus ceterisque notis ab hac specie differunt.

Luzon, Subprov. Benguet, mons Pulog, alt. 9000 ped., *For. Bur. 16361 Curran, Merritt, Zschokke.* Ad plantas destructas in rupe. Fert.

15. **Cl. gymnopoda** Vain. Mon. Clad. Univ. II p. 172, III p. 260.

Luzon, Subprov. Abra, mons Posuey, *Bur. Sci. 27100 Ramos.* Ad truncum arboris.

2. **Baeomyces** (Pers.) Mass.

Sect. 1. **Phloeopus** Vain.

Stipes apothecii strato medullari gonidia continente instructus.

1. **B. fungoides** Ach. Nyl. Syn. Lich. 280. Hue Lich. Extra-Eur. I 25.

Thallus KHO non reagens, in parte superiore gonidia ad Cystococcum humicolam pertinentia, cellulis diam. 0.008—0.014 mm, fortuito in parte interiore et inferiore inter hyphas algas Glococapsoideas duarum specierum, at nulla leptogonidia (Dactylococcus infusionum) continens (conf. Hue l. c.). Discus apothecii KHO non reagens, stipes KHO non reagens, solidus, in strato medullari algas Cystococcaceas solas continens.

Mindoro, mons Halcon, *Merrill 6199.* Ad terram arenosam.

2. **B. ramalinellus** Nyl. Addit. Fl. Chil. (1855) 146, Syn. Lich. 177. *Biatora aurata* Mont. et v. d. Bosch Syll. Lich. (1856) 337, Lich. Jav. (1855) 458 (secund. specim. orig. n. 40259 in herb. Nyl.). *Baeomyces auratus* Nyl. Syn. Lich. 180.

Var. **genuina** (Müll. Arg.) Vain. *B. auratus* f. *genuina* Müll. Arg. Lich. Beitr. (Fl. 1882) n. 377.

Apothecia simplicia aut parce aggregata, stipite majore parte corticato, simplice aut raro parce ramoso. Thallus squamoso-areolatus, areolis contiguis. KHO lutescens deindeque rubescens. Stipes, margo et discus apotheciorum KHO rubescens. Gonidia ad Cystococcum humicolam pertinentia, in thallo majora et membrana crassiore, quam in cortice stipitis. — *B. ramalinellus* Nyl. secundum specimen orig. in herb. Nyl. stipite basim versus angustius corticato a v. *polycephala* (Müll. Arg. l. c.) differt.

Luzon, Subprov. Benguet, alt. 1800 m, *Merrill 7942*. Ad terram arenosam.

Sect. 2. **Gymnopus** Vain.

Stipes apothecii nudus, gonidiis destitutus.

3. **B. heteromorphus** Nyl. Syn. Lich. 178 (n. 40290 in herb. Nyl., Lich. Nov. Zel. (1888) 14.

Thallus KHO lutescens, dein rubescens, in parte superiore gonidia ad Cystococcum humicolam pertinentia, cellulis diam. 0.008—0.012 mm, in parte inferiore fortuito algas Gloeocapsoideas continens. Stipes et margo apothecii KHO bene rubescens, discus testaceus aut rubescens (f. *rubens* Nyl. l. c.) in eodem specimine, KHO leviter aut bene rubescens. Apothecia in hoc specimine simplicia.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8659 McGregor*. In rupe et supra plantas destructas.

4. **B. crenulatus** Hepp in Zoll. Verz. 5, 7; Nyl. Syn. Lich. 179.

Var. **subsessilis** (Mont. et v. d. Bosch) Nyl. l. c. *Biatora* Mont. et v. d. Bosch Lich. Jav. 33 (Syll. Lich. 337), secund. specim. orig. n. 40297 in herb. Nyl.

Thallus KHO lutescens deindeque rubescens, gonidia ad Cystococcum humicolam pertinentia continens, cellulis diam. 0.008—0.014 mm. Apothecia disco KHO intense rubescente, margine vulgo leviter crenulato, KHO rubescente.

Luzon, Subprov. Benguet, alt. circ. 2000 m, *Merrill 7929*. Ad terram argillacco-arenosam.

5. **B. absolutus** Tuck., Nyl. Syn. Lich. 178, Vain. Étud. Lich. Brés. II 6, Müll. Arg. Consp. Lich. Nov. Zel. 25.

Var. **stipitata** (Mont.) Vain. l. c. *Biatora icmadophila* var. *stipitata* Mont. Ann. Sc. Nat. 4 sér. VIII (1857) 298.

Apothecia stipitata. — Thallus gonidiis globosis, simplicibus aut raro bicellulosis, diam. 0.006—0.010 mm, forsan ad Pleurococcum pertinentibus, at habitu cystococcoideis. Discus apotheciorum KHO solutionem dilute lutescentem effundens, parum reagens.

Luzon, Subprov. Benguet, mons Pulog, alt. circ. 2000 m, *Merrill 6442*, *For. Bur. 16356 Curran*, *Merritt*, *Zschokke*. Ad terram humosam et plantas destructas.

Var. **subsessilis** Tuck. in Wright Lich. Cub. n. 24, Vain. l. c. *B. Novae Zelandiae* Knight Lich. Nov. Zeal. (1883) 348, Nyl. Lich. Nov. Zel. (1888) 13 (secundum specim. orig. n. 40298 in herb. Nyl.).

In specimine philippino gonidia pleurococcacea, diam. circ. 0.010—0.014 mm, simplicia aut parce bicellulosa, membrana sat crassa aut mediocri. Hymenium jodo non reagens aut dilute caerulescens (in eodem apothecio).

Luzon, Subprov. Lepanto, Balili, alt. circ. 3500 ped., *Merrill 4883*. Ad terram calcariam loco umbroso humido.

6. **B. pulogensis** Vain. sp. nov.

Thallus crustaceus, subcontinuus, verruculoso-inaequalis, granulis sorediorum passim parcissime inspersus, albidus, KHO leviter flavescens aut parum reagens, gonidiis ad Pleurococcum pertinentibus, simplicibus aut raro bicellulosis, diam. 0.012—0.016 mm, membrana sat tenui. Apothecia stipitata, cum stipite 4—8.5 mm alta, capitulum formantia 1—3.5 mm latum, subglobosum aut demum irregulare aut tuberculoso-rugosum, intus solidum, simplicia aut raro apice furcata, pulchre rosea, KHO parum reagentia, pruinosa, immarginata, clavata aut infra capitulum demum leviter constricta, stipite sybcylindrico aut apicem versus incrassato, concolore, solido, haud corticato. Hymenium jodo fulvescens (haud caerulescens).

Paraphyses sat arcte cohaerentes, crass. 0.0015 mm, apice haud incrassatae. Asci cylindrici, crass. 0.007—0.008 mm. Sporae 8:nae, monostichae aut distichae, fusiformi-oblongae, apicibus obtusis, rectae, simplices (protoplasmate raro in duas partes diviso), long. 0.012—0.018, crass. 0.003—0.005 mm. Stratum chondroideum, infra hypothecium partem interiorem apothecii impleens, ex hyphis formatum crassis, sine limite distincto conglutinatis, valde hyalinis, strato intimo membranae bene limitato, tenui, tubulum 0.002 mm crassum formante. — Habitu valde similis est *B. roseo*, at apotheciis intus solidis (haud arachnoideis) ab eo differens.

Luzon, Subprov. Benguet, mons Pulog, *Bur. Sci. 8941 McGregor.* Ad terram humosam.

7. **B. capitatus** Vain. sp. nov.

Thallus crustaceus, subcontinuus, subverrucoso- aut irregulariter rugosus, superficie subtilissime verruculoso-subgranulosa, sorediis veris destitutus, albidus, KHO non reagens, crassitudine mediocris, gonidiis ad Pleurococcum pertinentibus, simplicibus aut raro bicellulosis, globosis, diam. 0.006—0.008 mm, membrana modice incrassata. Apothecia stipitata, cum stipite 4—8 mm alta, capitulum formantia 2—3.5 mm latum, depresso-convexum, demum saepe tuberculoso-rugosum, basi bene constrictum aut concavum, intus solidum, simplicia aut apice parce breviterque ramosa, pallido-carnea, tenuiter pruinosa, KHO non reagentia, immarginata, stipite subcylindrico aut parce irregulariter sulcato, concolore, solido, haud corticato. Hymenium crass. 0.120—0.110 mm, totum pallidum, jodo sat dilute caerulescens, dein mox fulvescens. Asci cylindrici. Sporae 8:nae, distichae, fusiformi-oblongae, apicibus obtusis aut altero apice interdum acuto, rectae, simplices (una spora 1-septata visa), long. 0.013—0.018, crass. 0.003—0.005 mm. Stratum chondroideum infra hypothecium ex hyphis formatum crassis, sine limite distincto conglutinatis, valde hyalinis, stratis nullis distinctis, cavitate fere 0.002 mm lata. — Proxime affinis est *B. pulogensi*, at forsan in eam non transit, praesertim forma apotheciorum ab ea differens. In *B. roseo* Pers. apothecia intus sunt cavernosa, cavernis partim

hyphas continentibus laxissime contextas, 0.004—0.003 mm crassas, sat leptodermaticas; gonidia thalli ad Dactylococcum infusionum pertinent (ellipsoidea, long. 0.005, crass. 0.003 mm, membrana tenuissima), at in parte inferiore thallus etiam Gloeocapsam abundanter continet (conf. Fünfstück in Engl. et Prantl Nat. Pflanzenfamil. 180 Lief., 1898, p. 14).

Luzon, Subprov. Benguet, mons Pulog, *For. Bur. 16367 Curran, Merritt, Zschokke.* Ad terram humosam.

3. **Toninia** Mass.

1. T. marivelensis Vain. sp. nov.

Thallus squamulosus, squamulis circ. 1—0.5 mm longis, adpressis, laciniatis crenatisque, laciniis 0.25—0.1 mm latis, glauco- vel olivaceo-pallidis, sat opacis, in crustam confertis, superne strato corticali instructus 0.006 mm crasso e serie subsimplice cellularum formato, cavitatibus cellularum subglobosis aut ellipsoideis, 0.003—0.002 mm latis, membranis leviter incrassatis. Gonidia forsan ad Cystococcum pertinentia. Hypothallus parce evolutus, hyphis laxe contextis, albidis, etiam e parte inferiore perithecii excrescentibus. Apothecia 1.2—0.5 mm lata, solitaria aut aggregata, simplicia aut leviter confluentia tuberculosaque, disco vulgo depresso-convexo, rarius demum bene convexo, rufo aut testaceo, nudo, sat opaco, margine concolore aut paullo obscuriore cinerascenteve, tenui, discum haud superante, demum excluso. Perithecium dilute lutescenti-pallidum aut rufescenti-electrino-lutescens, KHO non reagens, ex hyphis radiantibus, conglutinatis formatum, cavitatibus cellularum oblongis aut ellipsoideis, 0.003—0.001 mm latis, membranis leviter incrassatis. Hypothecium rufescenti-electrino-lutescens au (in apotheciis pallidioribus) dilute lutescenti-pallidum, KHO non reagens. Hymenium circ. 0.050 0.040 mm crassum, subdecoloratum aut dilute lutescens, jodo intense caerulescens. Paraphyses crassitudine mediocres, apice leviter incrassatae, arcte cohaerentes, sat crebre septatae, tubulis tenuibus, membranis leviter incrassatis. Sporae 8:nae, polystichae, aciculares, apice superiore vulgo obtuso, apice

inferiore attenuato, rectae, pauciseptatae, septis vulgo 3, long. 0.022—0.037, crass. 0.0015 mm. — Habitu subsimilis est *T. triptophyllinae* (Nyl.), quae apotheciis testaceis et hymenio jodo vinose rubente ab ea differt. — *T. adscendens* (Vain., Lich. Bras. Exs. 777, 1385), squamis thalli adscendentibus et margine apotheciorum crassiore persistenteque a *T. squamulosula* (Nyl.) secund. specim. orig. in herb. Nyl. differens, hic notetur.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6274.* Ad corticem arboris.

2. **T. Robinsonii** Vain. sp. nov.

Thallus squamulosus, squamulis circ. 1—0.5 mm longis, adpressis, saepe demum imbricatis, laciniatis crenatisque, laciniis 0.2—0.15 mm latis, cinereo-glaucescens, opacus, hypothallo inconspicuo. Apothecia 2—0.5 mm lata, solitaria aut rarius aggregata confluentiave, disco leviter convexo planiusculove, nigricante aut rufo, opaco, nudo, margine concolore, tenui aut sat tenui, demum excluso. Perithecium ex hyphis radiantibus, conglutinatis, sat leptodermaticis formatum, cavitatibus cellularum elongatis oblongisve, 0.001 mm latis, extus vinose rubricosum, intus aut maxima parte pallidum, partibus rubricosis KHO purpureo-violascentibus, demum in stipitem continuatum 0.4 mm longum, in thallum substratumque penetrantem. Hypothecium superne vinose rubricosum, KHO purpureo-violascens, inferne pallidum et KHO non reagens aut (in apotheciis rufis) fere totum pallidum. Hymenium circ. 0.080—0.120 mm crassum, jodo caerulescens deindeque vinose rubens. Paraphyses arcte cohaerentes, crass. 0.0015 mm. Sporae 8:nae, aciculares, apicibus acutis, septis paucis, long. 0.040—0.048, crass. 0.001—0.0015 mm. — Habitu subsimilis est *T. vestitae* (Nyl. Lich. Nov.-Gran. 460, e Guyane, 17343 in herb. Nyl.), quae autem squamis adnatis, minus distinctis et hypothallo byssino cinereopallido leviter evoluto ab ea differt. Primaria *Biatora vestita* Mont. e Brasilia exactius non est cognita.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 6545 Robinson.* Ad truncum arboris.

4. **Bacidia** De Not.

1. **B. banoënsis** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, leviter verruculoso-inaequalis, verruculis depressis, sordide vel cinereo-albicans, KHO non reagens, sorediis destitutus, hypothallo indistincto. Apothecia 0.5—1.1 mm lata, disco depresso-convexo aut plano, pallido aut testaceo-pallido, nudo, sat opaco, margine tenui, fere concolore aut vulgo cinereo- vel livido-pallescente. Perithecium ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum oblongis, angustis, rubricosum, KHO non reagens. Hypothecium superne rubricosum, inferne pallidum, KHO reagens. Hymenium 0.060—0.080 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut pallidum. Paraphyses sat arcte cohaerentes, simplices, crass. 0.001 mm, apice paullo crassiores. Asci clavati. Sporae 8:nae, elongatae aut aciculari-elongatae, apicibus obtusis aut altero apice attenuato, 7-septatae, rectae, long. 0.017—0.023, crass. 0.002—0.004 mm. Gonidia globosa, diam. circ. 0.006 mm, tantum simplicia visa, verisimiliter ad Pleurococcum pertinentia. — Habitu similis est *B. connexulae* (Nyl.), *B. Malaccensi* (Nyl.) et *B. submediali* (Nyl.), sed colore hypothecii et perithecii ab iis differens.

Los-Banos, *Baker 543.* Ad corticem *Fici haiuli.*

2. **B. carneocinerea** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris aut sat tenuis, granuliformi-verruculosus aut verruculoso-inaequalis, verruculis contiguis, cinerascens vel cinereo-glaucescens, KHO non reagens, hypothallo indistincto aut linea nigricante parce limitatus. Apothecia 0.9—0.3 mm lata, basi constricta, saepe crebra, disco plano aut demum convexo, carneo-pallido, nudo, opaco, margine concolore, sat tenui, integro, primum vulgo leviter prominente, demum attenuato aut excluso. Perithecium pallidum aut albidum, ex hyphis formatum radiantibus, conglutinatis, leptodermaticis, cavitatibus cellularum oblongis aut elongatis, 0.002—0.001 mm latis. Hypothecium decoloratum aut dilute pallidum, ex hyphis irregulariter contextis formatum.

Hymenium 0.050—0.080 mm crassum, jodo caerulescens, dein fulvo-fuscescens. Epithecium dilute pallidum aut decoloratum. Paraphyses arcte cohaerentes, simplices, crass. 0.0015 mm. Asci clavati. Sporae 8:nae, polystichae, decolores, elongatae, apicibus obtusis, rectae, 3-septatae, haud constrictae, long. 0.016—0.022, crass. 0.002—0.004 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. circ. 0.005 mm, simplicia aut pr. p. 4-cellulosa. — Ad species inter *Bacidias* et *Biatorinas* intermedias pertinet.

Luzon, Subprov. Rizal, Taytay, *Merrill 6333, 6341*, Manila, *Merrill 8517*. Ad corticem *Jatrophae curcas* et *Gliricidiae sepium* et aliarum arborum collecta.

3. **B. mastothallina** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, verruculis dispersis, 0.1 mm latis, hemisphaericis inspersus, cinereo-glaucescens. KHO non reagens, sorediis destitutus, hypothallo indistincto. Gonidia ad Pleurococcum pertinentia, globosa, diam 0.004—0.007 mm, tantum simplicia visa. Apothecia 0.2—0.4 mm lata, numerosa, sat crebra, simplicia aut rarius demum tuberculoso-composita, saepe demum leviter irregularia, circ. 0.14 mm crassa, basi constricta, disco plano, nigro, nudo, opaco, saepe leviter inaequali, haud raro demum subperforato aut fisso, margine excluso (jam in statu juvenili) aut raro primum conspicuo, cinereo-fuscescente, tenuissimo, integro. Perithecium pallidum, ex hyphis formatum radiantibus, leptodermaticis, conglutinatis, cavitatibus cellularum oblongis, 0.003—0.001 mm latis. Hypothecium fuscum aut rubricoso-fuscescens, KHO non reagens. Hymenium 0.045—0.050 mm crassum, jodo intense persistenterque caerulescens. Epithecium pallidum aut dilute fuscescens. Paraphyses arcte cohaerentes, tubulis 0.0005—0.0007 mm crassis gelatinam percurrentibus. Sporae 8:nae, aciculari-commatiformes, altero apice rotundato, altero obtuso acutove, septis 3—7, rectae aut saepe leviter subcurvatae obliquaeve, long. 0.015—0.029, crass. 0.003—0.004 mm.

Luzon, Subprov. Rizal, Jalajala, *Bur. Sci. 11900 Robinson* et *Ramos*. Ad folia perennia arboris maculas circ. 5—20 mm latas formans.

4. **B. leptocarpa** Vain. sp. nov.

Thallus crustaceus, continuus aut partim subdispersus, tenuissimus, laevigatus, sorediis et verruculis destitutus, virescens, KHO non reagens, opacus, hypothallo indistincto. Gonidia pleurococcacea. Apothecia 0.2—0.3 mm lata, crass. circ. 0.08 mm, sparsa, simplicia, solitaria, basi constricta, disco plano aut demum leviter convexo, nigro, nudo, opaco, margine tenuissimo, integro, sordide albicante, persistente, glabro. Perithecium intus sordide albidum, granula minuta abundanter continens, ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum oblongis, 0.002 mm latis. Hypothecium purpureo-rufescens aut fuscescens aut parte infima cyanescens. Hymenium 0.030—0.040 mm crassum, jodo persistenter caerulescens. Epithecium dilute rufescens aut pallidum. Paraphyses arcte cohaerentes, simplices, rectae, tubulis 0.001 mm crassis gelatinam hymenialem, e membranis formatam, percurrentibus. Sporae 8:nae, aciculares, altero apice obtuso, altero attenuato, rectae, septis 1—3, long. 0.010—0.018, crass. 0.0015 mm. — Affinis *B. poliophaeae*, praesertim thallo laevigato ab ea differens.

Polillo, *Robinson*. Ad folia perennia arboris parce lecta.

5. **B. olivaceorufa** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, laevigatus, sorediis destitutus, olivaceo-rufescens, KHO non reagens, opacus, hypothallo indistincto. Gonidia pleurococcacea. Apothecia 0.2—0.35 mm lata, disco plano, fusco, nudo, opaco, margine tenui, integro, sordide pallido-rufescente aut (disco) subconcolore, persistente, glabro. Perithecium et hypothecium fusco-rubescens, HHO non reagens. Hymenium 0.040—0.050 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut partim pallidum. Paraphyses simplices, tubulo sat tenui, gelatinam hymenialem, e membranis arcte cohaerentibus formatam, percurrentibus. Asci clavati. Sporae 8:nae, aciculares, altero apice obtuso, altero attenuato, rectae, septis circ. 9, long. 0.023—0.028, crass. 0.003 mm. — *B. cinnamomeae*

(Krempelh.) et *B. trichosporellae* Zahlbr. et *B. nigrescenti* Müll. Arg. analoga.

Polillo, *Robinson.* Supra folia perennia arboris *Cycadeae.*

6. **B. naevia** Vain. sp. nov.

Thallus crustaceus, continuus, tenuissimus, laevigatus, cinereo-glaucescens, KHO non reagens, opacus, hypothallo nullo distincto. Gonidia ad Pleurococcum pertinentia, globosa, simplicia et diam. 0.008—0.006 mm aut pr. p. glomerulosa. Apothecia orbicularia aut naeviaeformi-angulosa, diam. 0.004—0.0015 mm, tenuia, adnata, haud constricta, immarginata, plana, nigra, opaca, glabra. Hymenium 0.025—0.030 mm crassum, jodo intense persistenter caerulescens. Epithecium pallidum aut decoloratum. Hypothecium rufescens aut testaceo-rubescens, KHO non reagens. Paraphyses parcae, simplices, sat crebre septatae, tubulis tenuibus, membranis gelatinosis. Asci clavati, long. saepe 0.028, crass. 0.008 mm, membrana sat tenui. Sporae 8:nae, bacillares aut aciculares, apicibus obtusis aut altero apice sat acuto, 3-septatae, rectae, decolores, long. 0.010—0.013, crass. 0.0015 mm.

Panay, Subprov. Iloilo, *Bur. Sci. 18221* pr. p. *Robinson.* Ad folia arboris.

7. **B. isidiocheila** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus, isidiis brevibus, circ. 0.140—0.160 mm crassis, verrucaeformibus aut raro subcylindricis, simplicibus aut ramosis crebre instructus, sordide albicans aut albido-glaucescens, KHO intense lutescens, hypothallo nullo distincto. Apothecia 2.5—1 mm lata, crassitudine mediocria, basi bene constricta, disco plano, rufo aut testaceo-rufescente, nudo, leviter nitido, margine sat crasso aut modice incrassato, integro aut leviter crenulato, pallido, leviter nitido, discum haud superante aut leviter prominente, vulgo latere parce isidioideo-verrucoso, verrucis gonidia continentibus, thallinis. Perithecium granula amorpha abundanter continens, albidum, KHO intense lutescens, intus impellucidum et ex hyphis irregulariter contextis formatum, 0.003—0.005 mm crassis, haud conglutinatis, membranis modice incrassatis, strato corticali

circ. 0.020 mm crasso, magis pellucido, membranis crassioribus. Hypothecium albidum aut dilute pallidum. Hymenium circ. 0.120—0.140 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut rufescens, KHO non reagens. Paraphyses sat laxe cohaerentes, simplices et partim ramoso-connexae, sat increbre septatae, crass. 0.0015—0.002 mm, gelatina hymeniali in KHO dissoluta. Asci clavati, crass. 0,025—0.030 mm. Sporae 12:nae — 8:nae, decolores, vermiculari-aciculares aut aciculari-fusiformes, altero apice rotundato aut obtuso, altero attenuato, aut ambobus apicibus sat obtusis, contortae aut leviter curvatae, 4—7-septatae aut in eodem apothecio simplices, long. 0.050—0.064, crass. 0.035—0.005 mm. Gonidia globosa, diam. 0.005—0.012 mm, tantum simplicia visa, verisimiliter ad Pleurococcum pertinentia. — Habitu *Lecanoram allophanam* in memoriam revocans, at isidiis ab ea differens.

Luzon, Subprov. Lepanto, mons Data, alt. 1000 p., *Merrill 4979*. Ad corticem *Pini insularis*.

8. **B. bicolor** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, verruculoso-inaequalis, albidus, KHO parum reagens aut leviter flavescens, sorediis destitutus, hypothallo indistincto. Gonidia cystococcacea, ut videtur, diam. 0.006—0.012 mm. Apothecia 1.3—0.7 (—0.5) mm lata, vulgo solitaria, saepe sat crebra, disco depresso-convexo, primum plano, dimidia parte vulgo testacea, altera parte sublivido-fuscescente aut rarius toto fusco vel livido-fuscescente, denudato aut tenuissime vel parum distincte pruinoso, margine modice incrassato aut demum sat tenui, subpersistente, livido vel cinereo-fuscescente nigricanteve, vulgo subpruinoso, haud elevato. Perithecium in margine extus fuscescens, ceterum pallidum aut totum pallidum, KHO non reagens, ex hyphis formatum radiantibus, leptodermaticis, conglutinatis, cavitatibus cellularum oblongis aut ellipsoideis, 0.002—0.003 mm latis. Hypothecium pallidum aut albidum, KHO non reagens. Hymenium 0.065—0.080 mm crassum, jodo persistenter caerulescens. Epithecium fuscescens aut sordide violacco-fuscescens aut partim sordide

pallescens, KHO non reagens. Paraphyses tenues, circ. 0.0015 mm crassae, flexuosae, ramosae et parce ramoso-connexae. Sporae 8:nae, aciculares, altero apice obtuso aut altero attenuato, rectae, septis circ. 6 aut paucioribus, long. 0.030—0.040, crass. 0.002—0.0025 mm. — *B. millegranae* (Tayl.) et *B. subluteolae* Nyl. affinis videtur, at sporis minoribus ab ea differens. Proxima est *B. golungensi* Vain. Catal. Welw. Afr. Pl. Lich. 419.

Luzon, Subprov. Rizal, Taytay, *Merrill 6340*. Ad truncum *Averrhoae bilimbi*.

9. **B. Merrillii** Vain. sp. nov.

Thallus crustacaeus, continuus, tenuis, laevigatus aut partim levissime verruculoso-inaequalis, albidus, KHO non reagens, sorediis destitutus, hypothallo nigricante partim limitatus. Gonidia tantum simplicia visa, forsan pleurococcacea, diam. 0.005—0.006 mm. Apothecia 1.5—0.7 mm lata, solitaria, saepe sat crebra, disco plano, fusco aut fusco-nigricante, nudo aut raro tenuissime livido-pruinoso, opaco, margine sat crasso aut modice incrassato, persistente, modice elevato, concolore, nudo, opaco. Perithecium extus rufescens, in margine intus dilute rufescens, in parte inferiore pallidum, ex hyphis formatum radiantibus, conglutinatis, sat pachydermaticis, cavitatibus cellularum oblongis, mediocribus. Hypothecium albidum. Hymenium crass. 0.100 mm, jodo caerulescens, dein oscure vinose rubens. Epithecium superne rufescens aut sordide rufescens. Paraphyses sat laxe (apice arcte) cohaerentes, crass. vix 0.001 mm, apices versus crassiores, haud ramosae. Asci clavati. Sporae 8:nae, aciculares, altero apice obtuso, altero sensim attenuato, rectae, septis 7—22, long. 0.068—0.090, crass. 0.0035—0.004 mm. — Subsimilis est *B. endoleucoterae* (Nyl.) et *B. sitianae* Vain., quae praesertim margine apotheciorum tenuiore neque elevato ab ea differunt.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 4947* pr. p. Ad corticem arboris.

10. **B. manilensis** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, laevigatus, sorediis destitutus, albidus, KHO haud reagens aut leviter flavescens, hypo-

thallo nigricante, crebro limitatus. Gonidia pleurococcacea, diam. 0.004—0.009 (vulgo 0.006) mm, interdum bicellulosa. Apothecia 1.2—0.6 mm lata, solitaria aut raro parce confluentia, disco plano aut raro demum depresso-convexo, rufo aut subferrugineo- aut testaceo-rufescente, nudo, opaco, margine tenui, persistente, discum haud superante aut primo leviter elevato, nigricante aut fuscescente aut raro sublivido vel disco subconcolore, opaco, nudo. Perithecium extus aut in margine rubricoso-rufescens, ceterum pallidum, KHO non reagens, ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum oblongis aut ellipsoideis, 0.002—0.003 mm latis. Hypothecium pallido-rufescens aut pallidum aut partim decoloratum, KHO non reagens. Hymenium crass. 0.110—0.120 mm, jodo caerulescens et demum sordide vinose rubens. Epithecium rubricoso-rufescens aut decoloratum, KHO non reagens. Paraphyses sat laxe cohaerentes, crass. 0.001 mm, apice paullo crassiores. Sporae 8:nae, aciculares, altero apice obtuso, altero attenuato, rectae, septis circ. 17—30, long. 0.062—0.110, crass. 0.002—0.004, vulgo 0.003—0.0025 mm. — Proxima est *B. conspondenti* (Nyl.) secund. specim. orig. 17041 in herb. Nyl.

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7947* p. p., *7991*. Ad truncos arborum.

11. **B. glaucorufa** Vain. sp. nov.

Thallus crustaceus, continuus, tenuis, minutissime verruculoso-granulosus (granulis haud distincte soredia formantibus), glaucescens aut olivacco-glaucescens, hypothallo indistincto aut passim crebre subbyssino, pallido. Gonidia globosa, diam. 0.010—0.007 mm, tantum simplicia visa, forsan ad Pleurococcum pertinentia. Apothecia 1.5—0.7 mm lata, solitaria aut parce confluentia, disco depresso-convexo aut primum plano, rubricoso-rufo, nudo, opaco, margine tenui, fere concolore, nudo, demum exciuso. Perithecium ex hyphis formatum sat pachydermaticis, conglutinatis, tubulis cellularum 0.002—0.005 mm latis, oblongis, extus partim rubricoso-rufescens, ceterum pallidum, KHO non reagens. Hypothecium palli-

dum, KHO non reagens. Hymenium 0.140 mm crassum, totum pallidum, jodo caerulescens, dein obscure vinose rubens. Paraphyses arcte cohaerentes, membrana gelatinosa, tubulo tenui. Asci clavati. Sporae 8:nae, filiformes aut aciculares, altero apice subacuto aut subobtuso, altero attenuato, subrectae, partim increbre, partim crebre septatae, septis saepe 2—6 aut numerosae, long. 0.060—0.074, crass. 0.0015— fere 0.002 mm.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20346 McGregor.* Ad truncum arboris.

12. **B. glaucofuscescens** Vain. sp. nov.

Thallus crustaceus, continuus, modice incrassatus aut partim demum sat crassus, minutissime verruculoso-granulosus, granulis partim subsorediosis, glaucescens, hypothallo indistincto. Apothecia lat. 1—0.5 mm, solitaria aut parce confluentia, disco primum diuque plano, demum convexo, rubricoso-rufescente aut demum fuscescente, nudo, opaco aut leviter nitido, margine tenui, fere concolore aut vulgo obscuriore vel subfuscescente, integro, persistente aut demum excluso. Perithecium pallidum aut extus rufescens, chondroideum, ex hyphis formatum radiantibus, pachydermaticis, conglutinatis, tubulis tenuissimis, rhizinis nullis. Hypothecium chondroideum, irregulariter contextum, pallidum aut fulvescens (aut in lamina crassiore siccaque rufescenti-testaceum), KHO haud reagens aut distinctius fulvescens. Hymenium circ. 0.065 mm crassum, totum decoloratum fulvescensve, jodo caerulescens. Paraphyses arcte cohaerentes, simplices, tenuissimae, apice leviter incrassatae (0.001 mm crass.). Sporae 8:nae, aciculares, rectae, altero apice obtuso, altero sensim attenuato et sat obtuso, 3—10-septatae, long. 0.026—0.036, crass. 0.002—0.003 (—0.0035) mm. — *B. glaucorufae* Vain. facie externa simillima est et forsan ejus variatio, at sporis duplo brevioribus et apotheciis p. p. obscurioribus ab ea differt.

Luzon, Subprov. Bontoc, *M. Vanoverbergh 3706.* Ad corticem arboris.

13. **B. purpurascens** Vain. sp. nov.

Thallus crustaceus, subcontinuus, sat tenuis, leviter subverruculoso-inaequalis, sorediis destitutus, albidus aut sordide albicans,

KHO non reagens, hypothallo cinereo-nigricante passim parce limitatus. Gonidia ad Pleurococcum pertinentia, globosa diam. 0.005—0.006 mm, vulgo simplicia, parce 4-cellulosa. Apothecia 0.6—1.2 mm lata, solitaria, sat crebra, disco plano aut raro demum depresso-convexo, livido-rufescente aut demum fusco-nigricante, primum saepe tenuissime caesio- vel livido-pruinoso, demum denudato, saepe maculato et habitu morboso, opaco, margine cinereo-pallescente aut pallido-rufescente aut rarius superne fusco-rufescente, nudo, opaco, crassitudine mediocri, haud elevato aut primum discum leviter superante, persistente. Perithecium partim fulvescens aut pallidum, partim purpureum, KHO non reagens, ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum ellipsoideis aut oblongis, 0.003—0.0015 mm latis. Hypothecium albidum, partim in latere superne purpureum, KHO non reagens. Hymenium 0.110 mm crassum, partim purpureum, jodo persistenter caerulescens. Epithecium partim pallidum, partim purpureum, KHO non reagens. Paraphyses sat arcte cohaerentes, crass. 0.001—0.0005 mm, apice paullo incrassatae. Sporae 8:nae, aciculares, altero apice obtuso aut rotundato, altero attenuato, rectae, septis circ. 13—35, long. 0.060—0.070, crass. 0.003—0.004 mm. — Affinis est *B. rubellae* (Ehrh.).

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7960.* Ad truncum arboris.

14. **B. hypoptiza** Vain. sp. nov.

Thallus crustaceus, tenuis, verruculosus et passim granulosus, verruculis et granulis contiguis aut partim dispersis, minutissimis, cinereo- aut olivaceo-glaucescentibus, hypothallo indistincto. Apothecia 0.8—0.3 mm lata, basi constricta, disco depresso-convexo aut raro plano, testaceo-pallido, nudo, sat opaco, margine concolore, tenui aut parum distincto aut demum excluso, integro. Perithecium cartilagineum, pallidum aut partim albidum, ex hyphis formatum radiantibus, pachydermaticis, conglutinatis, tubulis tenuissimis. Hypothecium dilute rufescens aut fulvescenti-pallidum aut pallidum, KHO dilutius coloratum. Hymenium 0.035—0.040 mm crassum, totum

dilute pallidum aut fere decoloratum aut epithecio partim rufescente aut subrubescente, jodo caerulescens deindeque pulchre violaceo-rubescens. Paraphyses arcte cohaerentes, membranis cartilagineo-incrassatis, tubulis tenuissimis. Asci clavati. Sporae 8:nae, polystichae, bacillares aut aciculares, apicibus rotundatis aut obtusis aut sat acutis aut altero apice attenuato, rectae, vulgo simplices, raro 3—2-septatae, long. 0.013—0.023, crass. 0.0015 mm. Gonidia globosa, tantum simplicia visa, ad Pleurococcum pertinentia, ut videtur. — Habitu subsimilis *L. hypoptellae* Nyl. (*L. symmictizae* Nyl.) est, at affinis *B. hyalinellae* (Müll. Arg. Lich. Exot. 282) et *B. subchloroticae* (Nyl. Fl. 1878, 451).

Palawan, prope lacum Manguao, *Merrill 9012*. Ad corticem arboris.

15. **B. perminuta** Vain. sp. nov.

Thallus crustaceus, tenuissimus, leviter inaequalis, cinereo-glaucescens, hypothallo indistincto. Apothecia minutissima, lat. circ. 0.25—0.1 mm, basi constricta, disco plano aut depresso-convexo, pallido aut albido-pallido, nudo, opaco, margine fere concolore, integro, tenuissimo aut fere excluso. Perithecium decoloratum aut dilute pallidum, pseudoparenchymaticum, sat leptodermaticum, cavitatibus cellularum vulgo ellipsoideis, 0.003—0.002 mm latis. Hypothecium pallidum aut decoloratum. Hymenium 0.035—0.03 mm crassum, jodo persistenter caerulescens. Paraphyses sat arcte cohaerentes, simplices, septatae, crass. 0.0015 mm, apice 0.003 mm. Epithecium pallidum aut decoloratum. Asci clavati. Sporae 8:nae, polystichae, aciculares, altero apice attenuato, altero acutato aut sat obtuso, rectae, 3-septatae, long. 0.024—0,032, crass. 0.0015—0.002 mm. Gonidia globosa, diam. 0.006—0.008 mm, simplicia aut glomerulosa, ad Pleurococcum pertinentia. — Apotheciis minutissimis et reactione hymenii a *B. hypoptiza* differens et *L. albohyalinam* in memoriam revocans.

Var. **foliicola** Vain.

Apothecia pallida. Sporae long. 0.030—0.032, crass. 0.0015 mm. Gonidia saepe glomerulosa. Foliicola.

Polillo, *Robinson*. Supra folia coriaca arboris.

Var. **Leeae** Vain.

Apothecia albidopallida. Sporae long. 0.024—0.030, crass. 0.0015—0.002 mm. Gonidia tantum simplicia visa. Corticola.

Los Banos, *Baker*. Ad corticem *Leeae manillensis*, fortuito lecta cum n. *536*.

16. **B. poliophaea** Vain. sp. nov.

Thallus crustaceus, continuus aut partim subdispersus, tenuis, verruculis dispersis, 0.1—0.14 mm latis, hemisphaericis adspersus, cinereo-glaucescens, KHO non reagens, sorediis destitutus, hypothallo indistincto. Gonidia pleurococcaea. Apothecia 0.2—0.46 mm lata, circ. 0.24 mm crassa, sat crebra, simplicia solitariaque, basi constricta, disco plano aut rarius demum leviter convexo, fusco aut fusco-nigricante, nudo, opaco, imperforato, margine tenui aut tenuissimo, integro, cinerascente, persistente aut demum excluso, glabro. Perithecium pseudoparenchymaticum, sat leptodermaticum, cavitatibus cellularum parvis, in latere apothecii albido-pallidum, in basi et parte interiore in hypothecium transiens. Hypothecium crassum, fusco- aut rubricoso-rufescens, KHO distinctius rubescens et partim purpureum. Hymenium 0.035 mm crassum, jodo intense persistenterque caerulescens. Epithecium pallidum aut decoloratum. Paraphyses arcte cohaerentes, simplices, tubulis 0.001 mm crassis gelatinam hymenialem percurrentibus. Sporae 8:nae, fusiformi-aciculares, apicibus obtusis aut altero apice attenuato, septis 5—7, rectae, polystichae, long. 0.018—0.024, crass. 0.002—0.004 mm. — *Rinodinam exiguam* habitu in memoriam revocans, at *B. mastothallinae* proxime affinis et in eam forsan transiens, margine apotheciorum magis evoluto ab ea differens. Potius ad *Bacidias*, quam ad *Bilimbias* aut *Biatorinas* pertinet.

Polillo, *Robinson*. Ad folia perennia arborum.

17. **B. malayana** Vain. sp. nov.

Thallus crustaceus, continuus aut rarius interruptus, tenuis aut tenuissimus, subgranuloso-inaequalis, granulis minutissimis, crebris, verruculaeformibus, olivacco- vel cinereo-glaucescens, KHO non reagens, opacus, hyphis tenuibus, leptodermaticis, increbre contextis,

hypothallo nullo distincto. Gonidia ad Pleurococcum pertinentia, globosa, simplicia aut pr. p. 4-cellulosa aut demum glomerulosa. Apothecia 0.48—0.15 mm lata, crass. circ. 0.18 mm, late adnata, basi leviter constricta, disco plano, rufo aut raro rubescente, nudo, opaco, margine subconcolore, tenuissimo, integro, subpersistente, glabro. Perithecium crass. 0.045—0.015 mm, pallidum, cavitatibus cellularum saepe oblongis, 0.002—0.003 mm latis, membranis modice incrassatis, gelatinosis. Hypothecium pallidum. Hymenium 0.040—0.050 mm crassum, jodo intense persistenter caerulescens. Epithecium decoloratum. Paraphyses arcte cohaerentes, simplices, tubulis 0.0007 mm crassis, membranis gelatinosis. Sporae 8:nae, polystichae, decolores, aciculares, altero apice sat obtuso aut acutato, altero attenuato, rectae, septis 1—6, decolores, long. 0.022—0.030, crass. 0.0015 mm.

Luzon, Subprov. Laguna, Los Baños, *Bur. Sci. 17365* pr. p. *Robinson*. Ad folia *Semecarpi cuneiformis* una cum *Catillaria oospora* Vain. et *C. semecarpi* Vain.

Obs. Mycobacidia Rehm mycelio gonidiis destituto a *Bacidia* differt, ad *fungos* pertinens. **Mycobacidia dagamensis** Vain. supra folia vigentia Piperaceae (?) in Leyte in insula Dagami a *C. A. Wenzel* collecta est [una cum *Phyllobrassia mirifica* (Krempelh.) Vain. var. *radiante* Vain]. Mycelium macula cinerascente indicatum. Apothecia crebra, lat. 0.3, crass. 0.130 mm, late adnata, basi leviter constricta, habitu lecideina, disco nigro, nudo, opaco, plano, margine tenui, integro, laevigato, glabro, cinereo-pallescente, discum haud superante. Perithecium ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum oblongis, sat angustis, membranis leviter incrassatis, pallidum. Hypothecium fusconigrum aut rufescens. Hymenium 0.040 mm crassum, totum olivaceopallidum aut decoloratum aut epithecio dilute rufescente pallidove, jodo caerulescens. Paraphyses arcte cohaerentes, simplices, crass. 0.0015 mm, membrana gelatinosa, cavitatibus oblongis. Asci clavati, in apice membrana modice incrassata. Sporae 8:nae, decolores, aciculares, altero apice rotundato obtusove, altero sensim attenuato, aut fusiformi-oblongae apicibusque obtusis, aut bacillares apicibusque rotundatis, 3—5-septatae, long. 0.011—0.015, crass. 0.0015—0.0025 mm. Planta facile recognita.

5. **Thalloedaema** (Mass.) Vain.

1. **Th. tabacina** Schaer., Spic. 631 (nec Ram., nec Krempelh.). *Toninia tristis* Th. Fr., Lich. Scand. 341.

Var. **macrobola** Vain.

Thallus bullato-squamosus, crassitudine 4—5 mm, squamis confertis, convexis, plicatis aut difformibus, 6—1.5 mm latis, superne olivacco- aut testacco-fuscescentibus, leviter aut parum nitidis, subtus nigricantibus, intus albis, cavernosis. Apothecia squamis affixa, vulgo aggregata, rarius solitaria, nigra, nuda, opaca, 0.7—1.5 mm lata, basi constricta, disco plano aut vulgo demum depresso-convexo, margine haud elevato, integro, crassitudine mediocri, persistente aut vulgo demum excluso. Perithecium extus vinose rubricoso-fuligineum, intus dilute rubricosum, ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus tenuibus. Hypothecium crassum, superne intensius vinose rubricosum et ex hyphis erectis formatum, inferne dilute vinose rubricosum et ex hyphis constans irregulariter contextis, pachydermaticis, conglutinatis, cavitatibus tenuissimis. Hymenium 0.050 mm crassum, jodo sat dilute caerulescens, dein vinose rubens. Epithecium aeruginosum aut aeruginoso-fuligineum. Paraphyses sat arcte cohaerentes, crass. circ. 0.002 millim., apice leviter clavatae. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, rectae, 1-septatae, haud constrictae, membrana crassitudine mediocri, long. 0.009—0.015, crass. 0.004 mm. — Forsan in *Th. tabacinam* transit, at thallo majore et colore epithecii ab ea differt.

Luzon, Subprov. Benguet, *For. Bur. 15633 Curran.* In rupe.

6. **Bilimbia** De Not.

1. **B. rubiginosa** Vain. sp. nov.

Thallus crustaceus, crassus, crass. 0.5—1.2 mm, areolato-diffractus, areolas formans 3—1 mm latas, planas aut depresso-convexas, sat laevigatas aut leviter verruculoso- aut verrucoso-inaequales, albidus aut cinereo-glaucescens, KHO non reagens, hypothallo indistincto. Apothecia 0.8—0.3 mm lata, sat tenuia, vulgo in acervulos (3—6) conferta confluentiave aut rarius solitaria, thallo adnata aut demum basi leviter constricta, disco plano aut demum leviter convexo, rufo, nudo, opaco, margine parte summa rufescente

aut rarius pallescente, parte inferiore pallescente, tenui aut sat tenui, haud aut rarius leviter prominente, integro, subpersistente, nudo, opaco. Perithecium parte superiore rubescens aut rufescenti-rubescens, inferne pallidum, ex hyphis formatum radiantibus, sat grosse plectenparenchymaticum, membranis modice incrassatis. Hypothecium rufescenti-rubescens, superne dilutius coloratum. Hymenium 0.070—0.080 mm crassum, jodo persistenter caerulescens. Epithecium rufescenti-rubescens. Paraphyses arcte cohaerentes, simplices, increbre septatae, tubulis 0.001 mm crassis, gelatinam hymenialem, e membranis formatam, percurrentibus. Asci clavati. Sporae 8:nae, distichae, decolores, fusiformes aut ovoideo-fusiformes, apicibus obtusis aut altero apice rotundato, 3-septatae, membrana tenui, haud aut tenuiter gelatinosae, long. 0.021—0.023, crass. 0.005—0.007 mm. Gonidia diam. 0.004—0.009 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Apotheciis rufis a *B. philippina* differt.

Luzon, Subprov. Benguet, *Merrill 7941*. Supra lapidem.

2. **B. philippina** Vain. sp. nov.

Thallus crustaceus, tenuis aut sat tenuis, continuus aut dispersus, irregulariter aut verruculoso- aut verrucoso-inaequalis, sorediis destitutus aut granulis sorediorum parcis adspersus, cinereo-glaucescens aut sordide albicans, hypothallo nullo distincto. Apothecia 0.7—2 mm lata, simplicia, basi constricta, disco persistenter plano aut demum depresso-convexo, nigro aut rarius fusco, nudo, opaco, margine modice incrassato, haud aut rarius modice prominente, integro, vulgo demum excluso, rarius persistente, concolore aut rarius cinereo-fuscescente, nudo, opaco. Perithecium fusco-rubricosum aut extus pallescens, ex hyphis radiantibus, conglutinatis formatum, cavitatibus cellularum angustis. Hypothecium fusco-rubricosum aut superne anguste pallescens. Hymenium 0.060—0.110 mm crassum, jodo persistenter caerulescens. Epithecium rufescenti-rubricosum aut partim pallidum. Paraphyses arcte cohaerentes, simplices, tubulis 0.001 mm crassis, gelatinam hymenialem, e membranis formatam, per-

currentibus. Asci clavati. Sporae 8:nae, distichae, decolores, fusiformes aut oblongae, vulgo rectae, apicibus obtusis aut acutis, 3-septatae, membrana tenui aut raro tenuiter gelatinosae, long. 0.020—0.030, crass. 0.005—0.010 mm. Pycnoconidangia verrucas nigras hemisphaericas formantia, conceptaculo (sub microscopio) rubricoso-rufescente, ostiolum versus periphysibus dichotome ramosis aut simplicibus, 0.020 mm longis, 0.002 mm crassis. Sterigmata brevia, long. circ. 0.010, crass. 0.0015 mm, simplicia, parce septata, constricte articulata. Pycnoconidia long. 0.003—0.004 mm, recta, capitulo fusiformi-ovoideo, 0.001 mm crasso, cauda tenuissima apice subclavata sterigmatibus affixa. Gonidia globosa, diam. 0.010—0.012 mm, pleurococcacea, ut videtur. — Proxime affinis est *B. triplicanti* (Nyl.) Vain. (*Bilimbiae obscuratae* Th. Fr.), at hypothecio rubricoso, apotheciis majoribus et minus elevate convexis ab ea differt.

Luzon, Subprov. Bontoc, alt. 1650 m, *Vanoverbergh 1299*; Subprov. Benguet, *For. Bur. 15622 Curran*, mons Pulog, *Merrill 6448*, Baguio, alt. 1450 m, *Bur. Sci. 14064 Robinson*; Subprov. Rizal, *Bur. Sci. 19002 Ramos*, Montalban, *Bur. Sci. 9552 Robinson*, Malapad Na Bato, *Bur. Sci. 14135 Robinson*; Subprov. Ifugao, mons Polis, *Bur. Sci. 20348 McGregor*. Panay, Distr. Iloilo, Larena, alt. 820 m, *Bur. Sci. 18205 Robinson*. Negros, Canlaon Volcano, alt. 6200 ped., *Merrill 6878* (var. **vulcanica** Vain., disco apotheciorum plano, fuscescente, margine cinereo-fuscescente, persistente, thallo cinereo-glaucescente differens, supra muscos crescens). Ad terram arenosam et calcariam et ad rupes et lapides.

3. **B. Weberi** Vain. sp. nov.

Thallus crustaceus, sat tenuis, verruculoso-inaequalis, sorediis destitutus, cinereo-glaucescens. Apothecia 1—0.4 mm lata, basi parum constricta, disco persistenter plano aut demum depresso-convexo, nigro, nudo, opaco, margine tenui, cinerascente, demum aut fere mox excluso. Perithecium lecideinum, caeruleo-fuligineum, KHO non reagens. Hypothecium purpureo-fuligineum, KHO solutionem purpuream effundens. Hymenium 0.040—0.045 mm crassum, inferne purpureo-rubescens, jodo persistenter caerulescens. Epithe-

cium purpureo- aut fusco-fuligineum, tenue, KHO non reagens. Paraphyses arcte cohaerentes, simplices, membrana gelatinoso-incrassata, apice clavatae. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae, apicibus obtusis aut rotundatis, 3-septatae, haud aut leviter constrictae, haud gelatinosae, long. 0.012—0.015, crass. 0.003—0.004 mm. Gonidia globosa, diam. 0.006—0.012 mm, membrana modice incrassata aut tenui, tantum simplicia visa, forsan pleurococcacea. — *B. triseptulans* (Nyl., Lich. Ins. Labuan, Lich. Jap. 111) huic est affinis. *B. trisepta* v. *ternaria* (Nyl., Vain. Lich. Exp. Vegae 106) colore hypothecii ab iis differt.

Mindanao, Subprov. Butuan, alt. 213 m, *Weber 1383*. Ad corticem arboris (specimen defectum).

4. **B. caryotae** Vain. sp. nov.

Thallus crustaceus, tenuis, subleproso-inaequalis, continuus, sorediis destitutus, cinereo-glaucescens, opacus, hypothallo nullo distincto. Apothecia 0.5—0.3 mm lata, sat crebra, basi constricta, disco leviter convexo aut rarius planiusculo, fusco aut isabellino-rufescente, nudo, opaco, margine disco concolore aut cinereo-pallescente, integro, tenuissimo, parum conspicuo aut demum excluso. Perithecium in medio apothecii subtus cyanescens, ceterum vulgo pallidum. Hypothecium rufescens. Hymenium 0.045—0.050 mm crassum, jodo intense persistenterque caerulescens. Epithecium pallidum aut dilute rufescens aut partim sublividum, tenue. Paraphyses sat laxe cohaerentes, parcae, simplices, crass. 0.0015 mm. Asci clavati. Sporae 8:nae, distichae, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundatis, 3-septatae, haud constrictae, rectae aut leviter curvatae, decolores, long. 0.012—0.015, crass. 0.004—0.006 mm. Gonidia ad Pleurococcum pertinentia, simplicia aut raro 4-cellulosa. — *B. vagula* (Nyl. Lich. Guin. 21) secund. specim. orig. in herb. Nyl. thallo albo et apotheciis nigris ab hac planta differt, at ei proxime est affinis.

Luzon, Subprov. Bulacan, Baliuag, *Bur. Sci. 9641 Robinson*. Ad folia *Caryotae*.

5. **B. dispersella** Vain. sp. nov.

Thallus crustaceus, tenuis, irregulariter dispersus, sat laevigatus, sorediis destitutus, albido-glaucescens, KHO non reagens, parum nitidus, hypothallo nullo distincto. Apothecia 0.3—0.2 mm lata, sparsa aut sat crebra, basi constricta, disco plano aut rarius demum depresso-convexo, fusco-nigricante, nudo, opaco, margine disco subconcolore aut pallidiore, integro, tenuissimo, vulgo fere mox excluso. Perithecium pallidum aut dilute rufescens, KHO non reagens. Hypothecium rufescens aut rufescenti-rubescens, KHO non reagens. Hymenium 0.050 mm crassum, jodo caerulescens, dein obscuratum. Epithecium pallidum. Paraphyses numerosae, arcte cohaerentes, simplices, tubulis 0.0015—0.001 mm crassis, membranis gelatinosis, modice incrassatis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundatis, 3-septatae, haud aut leviter constrictae, membrana haud gelatinosa, long. 0.010—0.014, crass. 0.003—0.005 mm. Gonidia globosa, diam. 0.005—0.009 mm, tantum simplicia visa, pleurococcacea, ut videtur. — A *L. caryota* thallo disperso et apotheciis subtus haud cyanescentibus differt.

Polillo, *Robinson*. Ad folia perennia arboris.

6. **B. microdiscus** Vain. sp. nov.

Thallus crustaceus, tenuissimus, sat laevigatus, haud granulosus, continuus aut leviter dispersus, glaucescens aut partim olivaceo-glaucescens, opacus, hypothallo nullo distincto. Apothecia 0.28—0.15 mm lata, sat crebra numerosaque, basi constricta, disco plano aut raro leviter convexo, rufo aut obscure rufescente, nudo, opaco, margine disco paullo pallidiore aut fere concolore, integro, tenuissimo, persistente, haud prominente, opaco. Perithecium pallidum, ex hyphis radiantibus, conglutinatis formatum, cavitatibus cellularum oblongis aut ellipsoideis, 0.001—0.0015 mm latis, membranis parum aut modice incrassatis. Hypothecium fulvo-rufescens, KHO paullo intensius rufescens. Hymenium 0.045 mm crassum, jodo persistenter caerulescens. Epithecium dilute pallidum. Paraphyses sat

parcae, tubulis tenuissimis. Asci clavati. Sporae 8:nae, distichae, decolores, fusiformes, apicibus obtusis, 3-septatae, haud aut leviter constrictae, membrana tenui, haud gelatinosa, long. 0.015—0.018, crass. 0.0035—0.005 mm. Gonidia globosa, diam. 0.004—0.010 mm, simplicia aut partim 4-cellulosa aut demum glomerulosa, ad Pleurococcum pertinentia. — Affinis *Lecideae caryotae* et *L. dispersellae* Vain.

Polillo, *Robinson*. Supra folia arboris. — Hic notetur: *Bilimbia rhaphidophylli* Rehm (Elmer, Leafl. Philipp. Bot. 1914 p. 2237), disco apotheciorum dilute flavido-brunneo vel fuscidulo, tenuiter marginato, sporis triseptatis, 0.010—0.012 mm longis, 0.003—0.004 mm latis instructa, ad folia *Rhaphidophylli* (Luzon, Subprov. Laguna, Los Baños) a *M. B. Raimundo* collecta.

7. **B. mastophoriza** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus aut laceratus dispersusque, glaucescens, laevigatus, verruculis hemisphaericis, 0.1—0.3 mm latis, concoloribus aut albido-glaucescentibus, intus albidis sat crebre aut parce adspersus, opacus aut parum nitidus, sorediis destitutus, hypothallo nullo distincto. Apothecia tenuia, crass. 0.11—0.14 mm, 0.4—0.2 (raro 0.7) mm lata, sparsa, orbicularia aut subirregularia, basi constricta, disco persistenter plano, nigro aut fuscescente aut livido-fuscescente, nudo aut tenuiter pruinoso, opaco, margine tenui, persistente, integro, albido, opaco. Perithecium gonidiis destitutum, albidum aut substramineum, impellucidum, materiam granulosam continens, KHO lutescens, ex hyphis formatum crebris, sat irregulariter contextis, haud aut leviter conglutinatis, 0.003—0.004 mm crassis, sat leptodermaticis, crebre septatis. Hypothecium superne rufescens aut fuscescens, KHO non reagens, inferne albidum aut albido-stramineum, in parathecium tenue, fuscescens partim continuatum. Hymenium epithecio stramineo aut totum decoloratum aut pallidum, jodo persistenter caerulescens, 0.040—0.050 mm crassum. Paraphyses arcte cohaerentes, simplices aut apice leviter ramosae, tubulis tenuibus, membrana gelatinosa modice incrassata. Asci clavati. Sporae 8:nae aut 6:nae aut 4:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus rotundatis, aut obtusis aut altero apice

acuto, rectae aut leviter curvatae, 3-septatae, haud aut leviter constrictae, long. 0.012—0.021, crass. 0.004—0.006 mm. In thallis sterilibus aut tantum raro etiam apothecia efferentibus pycnides et conidangia (spermogonia) saepe observantur (in eodem thallo). Pycnides verrucas formant subdolioliformes, 0.2—0.3 mm altas crassasque, basi leviter constrictas, apicem versus saepe demum leviter dilatatas, rectas aut obliquas, albidas aut subpallidas, ostiolo obscurato. Basidia long. 0.020—0.040, crass. 0.003—0.002 mm, crebre constipata, simplicia, apicibus stylosporas efferentibus. Stylosporae obovoideae, altero apice rotundato, altero acuto, long. 0.005—0.006, crass. 0.003—0.002 mm. Conidangia initiis apotheciorum consimilia, verrucas albidas, 0.002—0.0015 mm latas, basi leviter constrictas, formantia, ostiolo sordide pallescente aut obscurato. Conidia long. 0.003, crass. 0.0005 mm, recta, medio tenuiora, apices ambos versus incrassata, apicibus rotundatis. Gonidia globosa, diam. 0.004—0.008 mm, tantum simplicia visa, ad Pleurococcum pertinentia, ut videtur.

Var. **primaria** Vain.

Thallus continuus aut partim laceratus, verruculis sat crebre adspersus. Discus apotheciorum niger aut rarius fusco-nigricans, nudus aut raro partim tenuiter pruinosus.

Polillo, *Robinson*. Supra folia.

Var. **lacerata** Vain.

Thallus bene laceratus aut dispersus, verruculis sat crebre adspersus. Discus apotheciorum lividus aut fuscescens aut fusconigricans, nudus aut tenuiter pruinosus.

Polillo, *Robinson*. Supra folia.

Var. **laevior** Vain.

Thallus continuus aut laceratus aut sat dispersus, verruculis parce adspersus. Discus apotheciorum fuscescens aut livido-rufescens, nudus aut tenuiter pruinosus.

Polillo, *Robinson*. Supra folia.

8. **B. polillensis** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus aut varie interruptus dispersusve, cinereo-glaucescens aut stramineo- vel glaucescenti-albidus,

verruculis hemisphaericis, 0,1 mm latis, concoloribus aut albidis, intus albis, crebre aut raro increbre adspersus, parum nitidus aut sat opacus, sorediis destitutus, hypothallo nullo distincto. Apothecia sat tenuia, crassit. circ. 0.22 mm, 1.2—0.3 mm lata, sparsa, orbicularia aut demum leviter irregularia, basi constricta, disco persistenter plano aut raro demum leviter convexo, sordide aut testaceo-pallescente aut pallido, nudo, opaco, margine tenuissimo, persistente aut demum excluso, concolore aut obscure vel livido-cinereo, opaco, integro. Perithecium albidum aut extus substramineum vel sordide pallidum, ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum ellipsoideis aut subglobosis, 0.0015—0.004 mm latis, membranis modice incrassatis. Hypothecium stramineum aut stramineo-pallidum. Hymenium 0.040—0.050 mm crassum, jodo persistenter caerulescens. Epithecium dilute stramineum aut decoloratum. Paraphyses arcte cohaerentes, membranis leviter gelatinosis, tubulis tenuibus aut sat tenuibus. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis aut sat acutis, 3-septatae, long. 0.012—0.014, crass. 0.004—0.005 mm, membrana haud gelatinosa. Gonidia globosa, diam. 0.006—0.010 mm, tantum simplicia visa, ad Pleurococcum pertinentia, ut videtur. — *B. palmicola* (Tuck.) thallo laevigato, *B. galbinea* (Krempelh.) verruculis thalli intus luteis et *B. pallidula* (Krempelh., Müll. Arg., Lich. Beitr. n. 1514) hypothecio pallido-rubello ab hac specie differunt.

Var. **normalis** Vain.

Thallus verruculis crebre adspersus, continuus. Apothecia disco testaceo-pallido aut sordide pallescente, margine concolore aut livido-cinerascente vel obscure cinereo.

Polillo, *Robinson*. Ad folia arboris.

Var. **interrupta** Vain.

Thallus varie interruptus aut dispersus, verruculis crebre adspersus. Apothecia disco sordide testaceo-pallescente, margine concolore aut obscure cinereo.

Polillo, *Robinson*. Ad folia arboris.

Var. **pallescens** Vain.

Thallus continuus, verruculis crebre adspersus, minus intense coloratus, quam in aliis variationibus. Apothecia disco pallido, margine concolore.

Luzon, Subprov. Tayabas, flumen Anoling, *Robinson.* Polillo, *Robinson.* Ad folia arboris.

Var. **parcior** Vain.

Thallus continuus, verruculis increbre aut parce adspersus. Apothecia disco sordide testaceo-pallescente, margine concolore aut obscure cinereo.

Luzon, Subprov. Rizal, *Bur. Sci. 13458 Ramos.* Ad folia arboris.

Obs. Supra thallum sterilem et fertilem *Bilimbiae polillensis* in insula Polillo saepe crescit **Cyphella foliicola** Vain., basidiosporis long. circ. 0.080, crass. 0.003 mm, filiformibus, apicibus incurvis, latere spinuloso, spinulis in una serie in curvamine basidiosporae dispositis, receptaculo reniformi-auriculato, applanato, sessili, superne pallido, inferne (hymenio) albido, 0.4—0.5 mm alto, basim versus 0.7—0.9 mm lato, habitu receptaculo *Cyphellae aeruginascentis* Karst. (Hedwigia 1889 p. 191, Vain. Etud. Lich. Brés. II p. 27) subsimili.

9. **B. elegans** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus aut rarius varie interruptus, glaucescens aut albido-glaucescens, opacus, laevigatus, sorediis destitutus, nec KHO, nec $CaCl_2O_2$ reagens, hypothallo nullo distincto. Apothecia 1—0.5 mm lata, crassit. mediocria, sparsa, orbicularia aut demum leviter irregularia, basi bene constricta, disco persistenter plano, aurantiaco- aut fulvo-rubescente aut raro sordide livido-rubescente, nudo aut subnudo, opaco, margine concolore, tenui, integro, opaco, persistente aut demum excluso. Perithecium fulvo-granulosum, KHO non reagens, ex hyphis radiantibus, conglutinatis formatum, cavitatibus cellularum ellipsoideis aut oblongis, 0.003—0.002 mm latis, membranis modice incrassatis. Hypothecium superne fulvescens et partim albidum, inferne dilute lutescens. Hymenium crass. 0.060 mm, jodo persistenter caerulescens. Epithecium fulvo-granulosum, tenue, KHO non reagens.

Paraphyses arcte cohaerentes, tenues, parce ramoso-connexae. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundatis, 3-septatae, rectae aut obliquae, haud aut leviter constrictae, membrana tenui, long. 0.011—0.014, crass. 0.004—0.005 mm. Gonidia globosa, diam. 0.008—0.012 mm, flavescentia, nucleo et saepe granulo et vacuolis lateralibus instructa, ad Cystococcum pertinentia. A *B. palmicola* (Tuck.) apotheciis rubescentibus majoribusque differt.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson.* Polillo, *Robinson.* Ad folia arboris.

10. **B. albidocincta** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus, laevigatus, sorediis destitutus, glaucescens vel cinereo-glaucescens, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia lat. 0.2—0.6 mm, crass. circ. 0.14 mm, sparsa, orbicularia, basi constricta, disco valde depresse convexiusculo aut subplano, testaceo aut rarius rufescente, nudo, opaco, margine tenui, integro, haud prominente, albido-pallescente aut subalbido, persistente, opaco. Perithecium impellucidum, extus albidum, intus pallidum, KHO non reagens, ex hyphis formatum 0.003 mm crassis, sat leptodermaticis, cavitatibus cellularum ellipsoideis. Hypothecium pallidum aut fulvescenti-pallidum, KHO non reagens. Hymenium 0.040 mm crassum, totum decoloratum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, membranis gelatinosis. Sporae 8:nae, distichae, decolores, fusiformes, apicibus obtusis aut saepe altero apice acuto, 3-septatae, haud constrictae, long. 0.013—0.017, crass. 0.003—0.004 mm, rectae, membranis haud gelatinosis. Gonidia globosa, diam. 0.008—0.004 mm, simplicia et 4-cellulosa visa, ad Pleurococcum pertinentia.

Polillo, *Robinson.* Ad folia arboris.

11. **B. annua** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus, laevigatus, sorediis destitutus, glaucescens, opacus, KHO non reagens, hypothallo nullo

distincto. Apothecia lat. 0.3—0.7 mm, sat tenuia, sparsa, orbicularia aut demum crenulata vel sat irregularia, basi constricta, disco plano aut raro demum leviter convexo, testaceo-pallido, nudo, opaco, margine valde tenui, integro, haud prominente, albo, persistente, opaco. Perithecium albidum, ex hyphis formatum leptodermaticis, cavitatibus cellularum ellipsoideis, 0.001—0.002 mm latis. Hypothecium pallidum aut fulvescenti-pallidum. Hymenium crass. 0.045—0.065 mm, totum decoloratum, jodo intense persistenter caerulescens. Paraphyses arcte cohaerentes, tubulis tenuissimis, membranis gelatinosis. Asci clavati. Sporae 8:nae, distichae, decolores, fusiformi-oblongae aut fusiformes, apicibus obtusis aut acutis, 3-septatae, haud constrictae, membranis haud gelatinosis, rectae, long. 0.011—0.014, crass. 0.002—0.0035 mm. Gonidia globosa, tantum simplicia visa, ad Pleurococcum pertinentia. Thallus etiam Phycopeltidem, thallo foliaceo instructam, parce (fortuitoque) continet. — Apotheciis pallidioribus a *B. insulari* et thallo glaucescente a *B. leptolomate* Müll. Arg. differt. Annua est, in foliis annuis crescens.

Polillo, *Robinson*. Supra folia annua herbae.

12. **B. iloilensis** Vain. sp. nov.

Thallus crustaceus, tenuissimus (crassit. 0.020—0.025 mm), continuus, sat laevigatus, haud verruculosus, parcissime sparseque soredioso-granulosus, granulis subtilissimis, albido-stramineus, opacus, KHO olivaceo-flavescens, $CaCl_2O_2$ non reagens, hypothallo nullo distincto. Apothecia lat. 0.2—0.48 mm, tenuia (crass. 0.13—0.20 mm), sparsa, orbicularia aut saepe sat irregularia crenulatave, basi leviter constricta, disco plano, pallido, nudo, opaco, margine valde tenui, integro aut crenulato, haud aut parum prominente, persistente, albido, opaco. Perithecium albidum, impellucidum, gonidiis destitutum, ex hyphis formatum subirregulariter contextis, partim conglutinatis, 0.004 mm crassis, sat leptodermaticis. Hypothecium dilute pallidum aut stramineo-pallidum. Hymenium 0.045—0.035 mm crassum, jodo caerulescens, dein subfuscescenti-obscuratum. Epithecium stramineum aut stramineo-albidum. Paraphyses ramoso-

connexae, tubulis tenuissimis, membranis gelatinosis, incrassatis, arcte conglutinatis. Asci clavati. Sporae 8:nae, distichae, decolores, fusiformes aut fusiformi-oblongae, apicibus obtusis aut acutis, 3-septatae, haud aut leviter constrictae, rectae, membrana haud gelatinosa, long. 0.010—0.012, crass. 0.002—0.003 mm. Gonidia globosa, tantum simplicia visa, diam. 0.005—0.010 mm, ad Pleurococcum pertinentia, ut videtur. — *Lecanoram conizaeam* habitu in memoriam revocans.

Panay, Distr. Iloilo, *Bur. Sci. 18221 Robinson.* Ad folia annua.

13. **B. rizalensis** Vain. sp. nov.

Thallus crustaceus, tenuis (crass. 0.025—0.030 mm), continuus aut varie interruptus, laevigatus, sorediis destitutus, stramineo-glaucescens, opacus, strato corticali destitutus, KHO et $CaCl_2O_2$ parum reagens, hypothallo nullo distincto. Apothecia lat. 0.6—0.3 mm, tenuia, sat crebra, orbicularia, basi leviter constricta, substrato late adnata, disco plano aut leviter concavo, pallido (in medio vulgo puncto testaceo aut rufescente, minutissimo), nudo, opaco, margine sat tenui, vulgo leviter prominente, integro aut leviter radiatim diffracto-crenulato, persistente, stramineo-albido, opaco. Perithecium albidum, impellucidum, ex hyphis formatum irregulariter crebre contextis, leptodermaticis, tenuibus, fortuito passim parce gonidia continens, strato corticali destitutum. Hypothecium fulvescens, inferne dilute rufescens, KHO non reagens, tenue (crass. circ. 0030 mm). Hymenium 0.050—0.070 mm crassum, jodo persistenter caerulescens. Epithecium stramineum aut subpallidum, leviter granulosum. Paraphyses arcte cohaerentes, simplices, cavitatibus cellularum 0.001 mm latis, membranis leviter incrassatis gelatinosisque Asci clavati. Sporae 8:nae, distichae, decolores, oblongae, apicibus obtusis aut rotundatis, leviter curvatae aut rectae, 3-septatae, haud aut demum leviter constrictae, membrana haud gelatinosa, long. 0.011—0.018, crass. 0.004—0.005 mm. Gonidia globosa, diam. 0.005—0.010 mm, simplicia aut raro bicellulosa, ad Pleurococcum pertinentia.

Luzon, Subprov. Rizal, Jalajala, *Bur. Sci. 11897, 11901 Robinson* et *Ramos* Supra folia *Semecarpi.*

14. **B. microphana** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus aut interruptus, laevigatus, sorediis destitutus, glaucescens aut cinereo-glaucescens, leviter nitidus, KHO non reagens, hypothallo nigricante aut fuscescente, crebro limitatus. Apothecia lat. 0.17—0.23 mm, tenuia, sat crebra, orbicularia, basi tota substrato adnata, latere abrupta aut basim versus levissime dilatata, disco plano aut leviter concavo, cinerascente, opaco, fere punctiformi, margine comparate sat crasso (crass. 0.020—0.040 mm), prominente, integro, persistente, atro, nudo, leviter nitido. Perithecium fusco-nigrum, basi apothecii deficiens. Hypothecium albidum. Hymenium totum decoloratum, circ. 0.030 mm crassum, jodo fulvescens, metaplasmate rubescente. Paraphyses arcte cohaerentes, simplices, crebre septatae, cavitatibus angustissimis, membranis bene gelatinosis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut fusiformes, apicibus obtusis aut rotundatis, rectae, 3-septatae, saepe demum constrictae, membrana haud gelatinosa, long. 0.011—0.017, crass. 0.003—0.004 mm. Gonidia globosa, tantum simplicia visa, diam. 0.006—0.008 mm, ad Pleurococcum pertinentia, ut videtur.

Polillo, *Robinson.* Luzon, Subprov. Tayabas, via Siniloan, *Robinson.* Ad folia *Semecarpi* et aliarum arborum.

7. **Sporopodium** Mont.

1. **Sp. leucoxanthoides** Vain. sp. nov.

Thallus crustaceus, sat tenuis aut crassit. mediocris, continuus, sat laevigatus aut rarius leviter verrucoso-inaequalis, sorediis destitutus, albidus, KHO lutescens, hypothallo nigricante aut fuscescente aut cinerascente partim limitatus. Apothecia 2.5—0.5 mm lata, adpressa, disco plano, fuscescente subnudoque aut ochraceo-pruinoso, margine crassit. mediocri aut sat crasso, leviter prominente aut discum aequante, persistente, integro, ochraceo aut fulvescente, sat opaco. Excipulum glabrum, gonidiis destitutum, strato myelo-

hyphico, albido aut dilute fulvescente, strato corticali ex hyphis radiantibus, conglutinatis formato, fulvescente. Hypothecium pallidum aut dilute fulvescens. Epithecium fulvescens. Partes fulvescentes apotheciorum KHO solutionem cyanescentem, in margine partim simul etiam solutionem violaceam effundentes, parte interiore marginis passim demum rubescente. Paraphyses sat laxe cohaerentes, crass. 0.0015 mm, simplices. Sporae solitariae, oblongae, decolores aut pallidae aut fulvescentes, murales, cellulis numerosissimis, haud gelatinososae, long. 0.126—0.080, crass. 0.035—0.025 mm. Gonidia pleurococcacea. — Vix nisi reactione apotheciorum a *Sp. leucoxantho* (Spreng.) differt et cum eo ab auctoribus commixtum, at distributione geographica alia. Reactione analogum est *Sp. subvulpino* (Nyl.).

Var. **ochraceopruinosa** Vain.

Apothecia disco ochraceo-pruinoso. Analoga est *Sp. leucoxantho* var. *ochrocarpae* (Nyl.).

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7970*. Ad corticem arboris.

Var. **epiphaeoides** Vain.

Apothecia disco fuscescente subnudoque. Analoga est *Sp. leucoxantho* var. *epiphaeizae* Vain.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7947*, *7967*. Ad corticem arborum.

2. **Sp. vulpinum** (Tuck.) Vain. *Lecidea* Vain. Lich. Antill. (1914) 121.

Thallus fulvescens aut glaucescens. Apothecia disco fuscescente aut ferrugineo-pruinoso, margine fulvo-ferrugineo, partibus fulvescentibus KHO violaceo- aut purpureo-rubescentibus. Sporae binae, decolores aut demum pallidae, ellipsoideae aut oblongae, murales, cellulis numerosissimis, long. 0.033—0.040, crass. 0.015—0.020 mm. Excipulum strato corticali fulvo, strato medullari albido aut rarius dilute fulvescente, myelohyphico, gonidiis destitutum, glabrum. Gonidia globosa, diam. 0.004—0.010 mm, simplicia aut raro bicellulosa, pleurococcacea.

Var. **ochrothallina** Vain.

Thallus superne intense aut dilute ochraceus. Apothecia disco ferrugineo-pruinoso aut fuscescente subdenudatoque.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12795 Fénix*; Subprov. Bataan, mons Mariveles, *Merrill 6263*. Biliran *Bur. Sci. 18444 McGregor*. Ad corticem arborum.

Var. **subglaucescens** (Nyl.) Vain. *Lecidea vulpina* var. *subglaucescens* Nyl. apud Hue Lich. Exot. 200. *L vulpina* v. *glaucescens* Nyl. Syn. Lich. Nov. Cal. 51.

Thallus superne glaucescens aut cinereo-glaucescens. Apothecia disco fuscescente, demum subnudo aut nudo. In specim. orig. n. 18042 in herb. Nyl. discus apotheciorum fuscus, nudus, margo rufescens. Huc etiam *L. bifera* Nyl. Exp. Lich. Nov. Cal. 47, Syn. Lich. Nov. Cal. 51 (Krempelh. Süds. 104) pertinet (nomen ineptum).

Luzon, Subprov. Nueva Vizcaya, *Bur. Sci. 20239 McGregor*; Subprov. Rizal, *Bur. Sci. 6781* pr. p. *Robinson, 16990 Ramos*; Subprov. Bataan, Limay, *Bur. Sci. 9633 Robinson*. Ad corticem arborum.

3. **Sp. fulgurans** Vain. sp. nov.

Thallus sat tenuis, e verruculis aut areolis constans 0.3—0.1 mm latis, difformibus, saepe leviter convexis, dispersis aut in acervulos aggregatis aut confluentibus contiguisve, sorediis destitutus, albidus aut glaucescenti-albidus, nec KHO, nec jodo reagens, hypothallo nullo distincto. Apothecia 0.5—0.2 mm lata, crass. circ. 0.13 mm, sparsa, orbicularia aut difformia, basi constricta, disco plano, rufescenti- aut croceo-rubescente, nudo, opaco, margine tenui aut sat tenui, integro aut raro leviter radiatim fisso, persistente, dilute aurantiaco-rubescente aut raro albido-glaucescente, nudo, opaco. Excipulum glabrum, gonidiis destitutum, intus albidum, impellucidum, ex hyphis irregulariter contextis formatum. Hypothecium inferne albidum, superne tenuiter rufescens aut fulvo-rufescens, KHO purpureo-rubescens. Hymenium 0.060—0.070 mm crassum, jodo persistenter caerulescens. Epithecium albidum aut pallidum. Paraphyses sat crebre ramoso-connexae, tubulis tenuissimis. Sporae solitariae, oblongae, apicibus rotundatis, rectae, pallidae, murales,

cellulis numerosissimis, membrana haud gelatinosa, long. 0.046—0.060, crass. 0.018—0.022 mm. Gonidia globosa, diam. 0.005—0.007 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Habitu *Placodium aurantiacum* in memoriam revocans.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson.* Ad folia arboris.

4. **Sp. ochrolechioides** Vain. sp. nov.

Thallus crustaceus, tenuis aut sat tenuis, continuus, sat laevigatus, sorediis destitutus, albidus, KHO non reagens, hypothallo nullo distincto. Apothecia 3—1 mm lata, sparsa aut nonnulla irregulariter confluentia, orbicularia aut difformia, basi constricta, disco plano, fuscescente, nudo, opaco, margine sat crasso, bene prominente, leviter crenato, albido, opaco, persistente. Excipulum gonidiis destitutum, albidum, glabrum, strato corticali haud evoluto, ex hyphis formatum irregulariter sat laxe contextis. Hypothecium fusco-nigricans, KHO non reagens. Hymenium 0.140—0.160 mm crassum, jodo persistenter caerulescens. Epithecium fulvescens aut fulvo-pallescens, KHO non reagens. Paraphyses ramoso-connexae, tubulis tenuissimis. Sporae solitariae, pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. circ. 0.080, crass. 0.020—0.022 mm. Gonidia globosa, tantum simplicia visa, diam. 0.006—0.010 mm, ad Pleurococcum pertinentia, ut videtur. — Habitu apotheciorum *Lecanoram hypnorum* et *Ochrolechiam geminiparam* in memoriam revocans.

Luzon, Subprov. Ifugao, mons Polis, *McGregor.* Supra muscos destructos et ipsum corticem in trunco arboris.

5. **Sp. mastocheilum** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, laevigatus, sorediis destitutus, glaucescens aut sordide pallescens, opacus, saepe demum facile desquamescens, KHO non reagens, hypothallo indistincto. Apothecia 1—0.5 mm lata, 0.4 mm crassa aut tenuiora, vulgo sparsa, orbicularia, basi constricta, disco plano, nigricante, crebre aut sat tenuiter albido-pruinoso, margine modice incrassato, haud prominente, verruculoso-crenulato, albido, opaco, persistente. Excipu-

lum glabrum, gonidiis destitutum, albidum, KHO parum reagens, ex hyphis crebre irregulariter contextis formatum, impellucidum myelohyphicumque. Hypothecium inferne pallidum aut albidum, superne fuscescens, KHO non reagens. Hymenium 0.100—0.150 mm crassum, jodo persistenter caerulescens. Epithecium olivaceo-pallidum aut albidum, inaequale granulosumque, gonidiis destitutum, KHO non reagens. Paraphyses ramoso-connexae, tubulis tenuibus, membranis gelatinosis. Sporae solitariae, decolores, oblongae, apicibus rotundatis aut obtuso-rotundatis, murales, cellulis numerosissimis, long. 0.070—0.112, crass. 0.014—0.025 mm, haud gelatinosae. Gonidia globosa, tantum simplicia visa, diam. 0.006—0.008 mm, ad Pleurococcum pertinentia. — Proxime affine est *Sp. peribyssizo* (Nyl. Lich. Guin., 1889, 20), quod secund. specim. orig. n. 18045 in herb. Nyl. hypothallo tenuissimo, albo, crebro, elongato, adnato (nec byssoideo) ab eo differt.

Polillo, *Robinson, Bur. Sci. 10797* pr. p. *McGregor.* Ad folia variarum arborum.

6. **Sp. mastophorum** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, verruculis hemisphaericis, circ. 0,1 mm latis, intus albis crebre adspersus, sorediis destitutus, glaucescens, sat opacus, KHO non reagens, hypothallo nullo distincto. Apothecia 1.5—1 mm lata, sparsa et parce evoluta, orbicularia aut leviter irregularia, basi bene constricta, disco concavo aut rarius plano, nigricante aut livido, nudo aut tenuiter caesio-pruinoso, margine crasso aut sat crasso, vulgo bene prominente, albido, opaco, persistente, glabro, crenulato, crenulis verrucaeformibus aut irregularibus, laevigatis aut demum partim subgranulosis. Excipulum glabrum, gonidiis destitutum, albidum, KHO non reagens, in parte exteriore impellucidum et myelohyphicum, ex hyphis crebre irregulariter contextis formatum, in parte interiore hyphis radiantibus, conglutinatis. Hypothecium fusco-nigricans aut fulvo-fuscescens aut fulvo-rufescens, KHO non reagens, in parathecium continuatum tenue, pallidum aut fulvescenti-pallescens, cellulis parvis brevibusque instructum. Hymenium 0.110—0.130 mm crassum, jodo persistenter

caerulescens. Epithecium dilute pallescens aut lutescenti-pallidum. Paraphyses parce ramoso-connexae, tubulis 0.001 mm crassis. Sporae solitariae, decolores aut rarius pallidae, oblongae, apicibus rotundatis aut rotundato-obtusis, murales, cellulis numerosissimis, long. 0.062—0.114, crass. 0.013—0.018 mm, membrana haud gelatinosa. Gonidia globosa, diam. 0.005—0.006 mm, tantum simplicia visa, ad Pleurococcum pertinentia. Conidangia prominentia, verrucaeformia aut demum conoidea, circ. 0.15—0.20 mm lata, fere aeque alta, sordide albida, ad ostiolum nigricantia, rufescentia sub microscopio. Sterigmata simplicia, haud septata, long. 0.015—0.020, crass. 0.001—0.0015 mm, apicibus conidia efferentibus. Conidia subcylindrica, apicibus levissime incrassatis, altero apice rotundato, altero obtuso, recta, long. 0.004—0.005, crass. 0.0007 mm. — Affine est *Sp. cupulifero* (Nyl. Énum. Gén. Lich., 1857, 123, Lich. Guin. 20), quod autem secund. specim. orig. n. 18047 in herb. Nyl., in Sumatra a Léveillé lectum, margine apotheciorum furfure epithallino obducto, nec verrucoso-crenulato, ab eo differt.

Polillo, *Robinson*, *Bur. Sci. 10795*, *10797* pr. p., *10800* pr. p. *McGregor*. Luzon, Subprov. Tayabas, Guinayangan, *Bur. Sci. 20918* pr. p. *Escritor*, via Siniloan, *Robinson*. Mindanao, Subprov. Cotabato, *Bur. Sci. 11651* pr. p. *Robinson*. Ad folia arborum variarum.

7. **Sp. glaucinum** Vain. sp. nov.

Thallus crustaceus, tenuis, maculas 1—2,5 mm latas, margine subintegras formans, continuus, sat laevigatus, sorediis destitutus, albido-glaucescens, KHO non reagens, hypothallo non distincto. Apothecia 0.15—0.43 mm lata, circ. 0.2 mm crassa, sparsa aut aggregata, orbicularia, basi constricta, disco plano, albido-carneo, tenuiter pruinoso, opaco, margine concolore, tenui, integro, subpersistente. Excipulum gonidiis destitutum, albidum, impellucidum, ex hyphis pachydermaticis, crebre irregulariter contextis formatum, glabrum. Hypothecium rufescens. Hymenium circ. 0.090 mm crassum, jodo persistenter caerulescens. Epithecium sordide pallidum. Paraphyses sat parcae, ramoso-connexae, tubulis tenuissimis gelatinam percurrentibus. Sporae solitariae, decolores, oblongae, api-

cibus rotundatis, muralcs, cellulis numerosissimis, seriebus cellularum transversalibus circ. 11, long. 0.048—0.090, crass. 0.016—0.020 mm. Gonidia pleurococcacea.

Polillo, *Robinson*. Ad folia arboris.

8. **Sp. pycnoblastum** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, verruculis hemisphaericis, minutissimis, 0.060—0.080 mm latis, albidis aut glaucescentibus, intus albis crebre inspersus, ceterum glaucescens, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia 0.4—0.3 mm lata, saepe sat crebra, orbicularia, tenuia, basi constricta, disco plano, nigricante, nudo, opaco, margine tenuissimo, haud prominente, albido aut albido-cinerascente, integro, glabro, persistente. Perithecium decoloratum, plectenparenchymaticum, cavitatibus cellularum oblongis aut rotundatis, 0.003—0.002 mm latis, membranis modice incrassatis. Hypothecium fuscescens aut dilute fuscescens aut subviolaceo-rufescens, KHO non reagens. Hymenium 0.100—0.080 mm crassum, totum decoloratum, gonidiis destitutum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, ramoso-connexae, tubulis tenuissimis, membranis gelatinosis. Sporae solitariae, decolores, oblongae, apicibus rotundatis, muralcs, cellulis numerosissimis, long. 0.058—0.084, crass. 0.015—0.020 mm, haud gelatinosae. Gonidia globosa, diam. 0.004—0.008 mm, vulgo simplicia (4-cellulosa parce visa). — Facie externa vix differt a *Bilimbia mastophoriza* Vain.

Polillo, *Robinson*. Ad folia arborum.

9. **Sp. duplicatum** Vain. sp. nov.

Thallus tenuissimus, continuus aut vulgo dispersus vel varie interruptus, areolis circ. 1—0.2 mm latis, difformibus, laevigatis, glaucescentibus, opacis, KHO non reagentibus, parathallis destitutus, hypothallo nullo distincto. Apothecia 0.3—0.8 mm lata, crass. 0.27—0.32 mm, sparsa, orbicularia, basi bene constricta, disco plano aut raro demum convexo, fusco-nigricante aut fuscescente, nudo, opaco, margine sat tenui, haud prominente, integro, subglabro,

albido-cinerascente, opaco, raro demum subexcluso. Perithecium intus parenchymaticum, extus plectenparenchymaticum, cellulis angulosis, irregularibus, circ. 0.004—0.008 mm latis, membranis modice incrassatis aut sat tenuibus, in medio apothecii cyanescens, ceterum albidum aut pallidum, parce subpilosum, hyphis extus parce leviterque excrescentibus. Hypothecium tenue, caeruleo-fuscescens aut aeruginosum aut obscure olivaceum aut fuscescenti-olivaceum, in parathecium tenue continuatum. Hymenium 0.080—0.130 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut pallidum. Paraphyses arcte cohaerentes, ramoso-connexae, tubulis tenuissimis, membranis gelatinosis. Sporae binae, decolores, elongatae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, long. 0.071—0.120, crass. 0.007—0.018 mm, membrana haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.004—0.008 mm, simplicia et parce 4-cellulosa. — Apotheciis crassioribus et sporis binis a specie praecedente differt.

Insulae Batanes, Batan, *Bur. Sci. 10204 McGregor,* ad folia *Angiopteridis angustifoliae.* Luzon, Subprov. Tayabas, via Siniloan, *Robinson,* in foliis palmae. Polillo, *Robinson,* in foliis variarum arborum.

10. **Sp. vermiculiferum** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, laevigatus, glaucescens aut cinereo-glaucescens, opacus, KHO non reagens, hyphis crebre contextis, 0.0015—0.004 mm crassis, leptodermaticis, septatis, gonidia pleurococcacea continens, praesertim in partibus vetustioribus parathallis (cephalodiis) filiformibus, arachnoideis, reptantibus aut adnatis, pallidis, long. 0.3 mm aut longioribus, 0.020—0.036 mm crassis tenuiter obsitus, hypothallo nullo distincto aut linea rufescente passim indicato. Parathalli fila Scytonematis continent solitaria, subsimplicia aut increbre ramosa, circ. 0.015 mm crassa, apice haud attenuata, vagina gelatinosa, 0.004 mm crassa, pallida instructa, cellulis in serie simplice dispositis, dilute cupreis aut aeruginosis, leviter compressis, 0.007—0.005 mm longis, 0.012—0.006 mm crassis, heterocystis intercalaribus, leviter compressis, saepe diam. 0.012—0.008 mm, dilute cupreis, hyphis crebre irregulariter

obducta. Apothecia 1.5—0.6 mm lata, crass. circ. 0.26—0.28 mm, sparsa, orbicularia, basi bene constricta, disco plano, fusco-nigricante aut fuscescente aut rarius rufo, opaco, nudo, margine haud aut parum prominente, tenui aut sat tenui, persistente, pallescente aut albido, integro, glabro. Perithecium parenchymaticum et partim plectenparenchymaticum, cavitatibus cellularum irregularibus, angulosis, circ. 0.014—0.008 mm latis, membranis sat tenuibus (0.0015—0.002 mm crassis), albidum aut pallidum, in medio apothecii aeruginoso-cyanescens, glabrum, KHO non reagens. Hypothecium olivaceo-fuscescens aut rufescens, KHO non reagens, in parathecium tenue, fuscescenti-pallidum, minute parenchymaticum continuatum. Hymenium 0,100—0.110 mm crassum, jodo persistenter caerulescens. Epithecium dilute olivaceo-fuscescens aut fuscescenti-pallidum, KHO non reagens. Paraphyses arcte cohaerentes, haud gelatinosae, simplices, haud connexae, crass. 0.0015—0.002 mm. Sporae solitariae, demum pallidae aut dilute fuscescentes, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.050—0.080, crass. 0.020—0.024 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.007—0.004 mm, vulgo simplicia, raro 4-cellulosa.

Polillo, *Robinson*. Ad folia *Cycadis*.

11. **Sp. tayabasense** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus, laevigatus aut sat laevigatus, cinereo- aut rarius albido-glaucescens, opacus, KHO non reagens, hyphis crebre contextis, 0.0015—0.002, raro 0.004 mm crassis, leptodermaticis, decoloribus, gonidia pleurococcacea continens, parathallis (cephalodiis) filiformibus, 0.020—0.030 mm crassis, thallo subconcoloribus sat abundanter instructus, hypothallo nullo distincto. Parathalli (cephalodia) fila Scytonematis continent solitaria, subsimplicia, circ. 0.016 mm crassa, apice haud attenuata, cellulis in serie simplice dispositis, 0.009—0.010 mm crassis, heterocystis intercalaribus, vagina gelatinosa, haud lamellosa, aurea aut decolore, hyphis crebre obducta. Apothecia 0.8—0,4 mm lata, crass. 0.20—0.27 mm, sparsa, orbicularia, basi bene constricta,

disco plano, livido-rufescente aut livido aut fuscescente aut rufo, tenuissime pruinoso aut nudo, opaco, margine haud prominente, tenui, persistente, albido aut albido-pallescente, integro, glabro. Perithecium gonidiis destitutum, parenchymaticum, cavitatibus cellularum globosis, 0.008—0.004 mm latis, membranis sat tenuibus aut modice incrassatis, glabrum, in medio apothecii cyanescens, ceterum albidum aut pallidum, KHO non reagens. Hypothecium violaceo- aut partim aeruginoso-fuscescens, tenue, in parathecium tenue, dilute fuscescens continuatum. Hymenium 0.080—0.110 mm crassum, totum pallidum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, crebre ramoso-connexae, tubulis 0.0007—0.0005 mm latis. Sporae solitariae, decolores aut demum pallidae, oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, long. 0.050—0.090, crass. 0.015—0.025 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.006—0.004 mm, tantum simplicia visa. — Habitu simile est *Sp. vermiculifero*, at parathallis (cephalodiis) minus superficialibus et paraphysibus ramoso-connexis ab ea differens. Sic *Heterothecium* Müll. Arg. et *Lopadium* Müll. Arg. (Lich. Beitr. n. 260 et 268) transeunt.

Var. **lividescens** Vain.

Discus apotheciorum livido-fuscescens aut lividus, tenuissime pruinosus.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Ad folia *Pothi*.

Var. **divergescens** Vain.

Discus apotheciorum fuscescens aut rufescens, nudus.

Luzon, Subprov. Tayabas, mons Binuang, *Robinson*. Polillo, *Robinson*. Ad folia arborum.

12. **Sp. exiguellum** Vain. sp. nov.

Thallus tenuissimus, continuus aut interruptus aut rarius subdispersus, laevigatus, glaucescens aut albido- vel cinereo-glaucescens, leviter nitidus, KHO non reagens, hyphis crebre contextis, parathallis nullis, hypothallo nullo distincto. Apothecia 0.6—0.3 mm

lata, crass. 0.26—0.16 mm, sparsa, orbicularia, basi leviter constricta, late adnata, disco plano aut leviter convexo, fusco aut nigricante aut rufescente, nudo, opaco, margine tenuissimo, haud prominente, integro, glabro, cinerascente aut disco concolore, aut demum excluso aut indistincto. Perithecium plectenparenchymaticum, cavitatibus cellularum subglobosis aut ellipsoideis, 0.003—0.006 mm latis, membranis tenuibus aut sat tenuibus, glabrum, in medio apothecii cyanescens, ceterum albido-pallidum aut albidum. Hypothecium fuscescens aut rufescens, in parathecium tenue, fuscescens continuatum. Hymenium 0.090—0.110 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut pallidum. Paraphyses arcte cohaerentes, simplices, haud ramoso-connexae, tubulis tenuissimis, 0.001—0.0007 mm crassis, membranis gelatinosis, in H_2SO_4 bene turgescentibus. Sporae solitariae, decolores, oblongae, apicibus rotundatis aut altero apice obtuso, murales, cellulis numerosissimis, long. 0.090—0.054 (—0.040), crass. 0.022—0.013 mm, haud gelatinosae. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.006—0.010 mm, simplicia aut raro 4-cellulosa. — Habitu simile est *Sp. olivaceo* (Müll. Arg., Vain. Catal. Welw. Afr. Pl. Lich. 421), at paraphysibus simplicibus et hypothecio obscuriore ab eo differt. Apotheciis *Rinodinam exiguam* in memoriam revocat.

Var. **obscurior** Vain.

Apothecia disco fusco aut nigricante. Sporae long. 0.074—0.054 (0.040), crass. 0.021—0.013 mm.

Polillo, *Robinson*, ad folia coriacea arboris. Ins. Marianae, Guam, *McGregor 620* pr. p., ad folia *Cycadis circinalis*.

Var. **cycadina** Vain.

Apothecia disco rufescente. Sporae long. 0.090—0.058, crass. 0.022—0.018 mm.

Polillo, *Robinson*, ad folia coriacea arboris. Ins. Marianae, Guam, *McGregor 620* pr. p., ad folia *Cycadis circinalis*.

13. **Sp. pilosellum** Vain. sp. nov.

Thallus crustaceus, tenuis aut tenuissimus, continuus aut vulgo dispersus vel varie interruptus, areolis circ. 1,2—0.2 mm latis, rotundatis aut difformibus, laevigatis, glaucescentibus, leviter nitidis, KHO non reagentibus, parathallis destitutus, hypothallo nullo distincto. Apothecia 0.25—0.5 mm lata, crass. circ. 0.24 mm, sparsa, orbicularia, basi constricta, disco plano aut raro demum convexo, nigro aut raro fusco-nigricante, nudo, opaco, margine tenui, cinerascente aut rarius obscurato, haud prominente, integro, saepe excluso, pilis parum conspicuis. Perithecium intus parenchymaticum et smaragdulum aut fere decoloratum vel dilute olivaceum, cellulis leptodermaticis, cavitatibus 0.006—0.010 mm latis, extus plectenparenchymaticum et pallidum aut fere decoloratum, in medio basis smaragdulo-fuligineum aut olivaceum, pilis instructum sat increbris, 0.1 - 0.05 mm longis, 0.006—0.005 mm crassis, sat pachydermaticis, cavitatibus cellularum 0.005—0.003 mm latis, oblongis. Hypothecium smaragdulo-nigricans aut dilute olivaceum, in parathecium tenue concolor continuatum. Hymenium 0.090—0.070 mm crassum, jodo persistenter caerulescens. Epithecium sordide smaragdulum aut dilute olivaceum. Paraphyses arcte cohaerentes, ramoso-connexae, tubulis tenuissimis, membranis gelatinosis. Sporae solitariae, decolores, oblongae, apicibus rotundatis, rectae, murales, cellulis numerosissimis, in seriebus transversalibus circ. 17, long. 0.073—0.040, crass. 0.025—0.016 mm (strato gelatinoso non computato), saepe gelatinosae. — Habitu subsimile *Sp. duplicato* Vain., at sporis solitariis ab eo differens et proxime affine *Sp. subpiloso* (Vain. Lich. Antill. 16), colore hypothecii ab eo recedenti.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14671.* Ad folia arboris n. 14670.

14. **Sp. Leprieurii** Mont. Syllog. (1856) 341. *Lecidea* Vain. Lich. Ant. (Journ. of Bot. 1896) 15, Addit. Lich. Antill. (1914) 123.

Thallus crustaceus, continuus aut saepius areolatus, areolis 1—2 (—0.1) mm latis, difformibus, dispersis, laevigatus aut leviter subverrucoso-inaequalis, albido- aut stramineo-glaucescens aut glaucus,

vulgo laeviter nitidus, KHO non reagens, tenuis, gonidia pleurococcacea continens, ex hyphis formatus crebre contextis, 0.001—0.002 mm crassis, leptodermaticis, tomento byssoideo vel arachnoideo, cinerascente aut albido, gonidiis destituto aut raro (in collect. Elliottii n. 2227) Pleurococcis parce instructo, inter areolas thalli aut rarius supra thallum evoluto, hyphis 0.003- 0.004 mm crassis, pachydermaticis. Apothecia in tomento aut in areolis thalli nascentia, 0.46—0.25 mm lata, tenuia, crass. 0.18—0.20 mm, sparsa, orbicularia, basi constricta, disco plano, nigricante (aut raro fusconigricante aut fusco), nudo, opaco, margine tenuissimo, persistente, albido, aut raro pallido, integro, pilis instructo radiantibus, circ. 0.2—0.3 mm longis, 0.007—0.006 (—0.003) mm crassis, pachydermaticis, albidis aut rarius pallidis vel cinerascentibus. Perithecium plectenparenchymaticum, cavitatibus cellularum subglobosis aut ellipsoideis, 0.007—0.003 mm latis, membranis sat tenuibus, albidum, sordide albidum aut pallidum, in medio apothecii, praesertim subtus, aeruginosum aut aeruginoso-cyanescens, latere pilosum. Hypothecium tenue, aeruginosum aut violaceo-fuscescens aut parte subhymeniali sordide subolivacea. Hymenium 0.070—0.100 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut pallidum aut partim violaceo-fuscescens. Paraphyses ramoso-connexae, apicibus clavato-incrassatis, tubulis tenuissimis. Sporae solitariae, decolores aut demum pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.100—0.060 (—0.040), crass. 0.023—0.018 (—0.012) mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.004—0.009 mm, vulgo simplicia, raro 4-cellulosa.

Var. **maculosa** Vain.

Thallus crustaceus, areolatus, areolis dispersis, hypothallo arachnoideo inter areolas thalli parum evoluto, tantum microscopio visibili. Hypothecium violaceo-fuscescens, parte subhymeniali sordide subolivacea. Sporae long. 0.070—0.040, crass. 0.022—0.012 mm.

Polillo, *Robinson*. Ad folia *Pandani*.

Var. **arachnoidea** (Krempelh.) Vain. *Phlyctis arachnoidea* Krempelh. Lich. Becc. Born. (Nuov. Giorn. Bot. Ital. 1875) 16, Lich. Foliic. (1874) 11. *Lopadium arachnoideum* Müll. Arg. Lich. Beitr. n. 1525.

Thallus crustaceus, areolatus, areolis dispersis, difformibus, 1—2 (—0.1) mm latis, gonidia pleurococcacea continentibus, hypothallo arachnoideo-tomentoso, gonidiis destituto, inter areolas thalli bene evoluto, subfoveolato. Hypothecium aeruginosum. Sporae long. 0.070—0.076, crass. 0.018 mm.

Polillo, *Robinson*. Luzon, Subprov. Tayabas, ad flumen Anoling, *Robinson*. Ad folia arborum variarum.

Var. **concrustans** Vain.

Thallus crustaceus, continuus, hypothallo arachnoideo-tomentoso evanescente aut passim supra thallum crustaceum evoluto distinctoque, pachydermatico. Hypothecium sordide violaceo-fuscescens et aeruginosum in eodem apothecio. Perithecium pallidum, in medio apothecii subtus cyanescenti-aeruginosum ibique tomento hypothallino concolore, ex hyphis formato tenuibus, leptodermaticis, ceterum pilis ornatum radiantibus, pallidis aut rarius cinerascentibus, 0.004—0.003 mm crassis, sat pachydermaticis. Epithecium pallidum. Sporae solitariae, decolores, long. 0.060—0.100, crass. 0.013—0.023 mm. Parathecium tenue, pallidum. — Forsan autonoma est species, in *Sp. phycophilum* accedens.

Polillo, *Robinson*. Ad folia arborum.

15. **Sp. phycophilum** Vain. sp. nov.

Thallus crustaceus, continuus, tenuissimus, laevigatus, albido-glaucescens, opacus, KHO non reagens, gonidia pleurococcacea continens, ex hyphis formatus crebre contextis, 0.002—0,003 mm crassis, leptodermaticis, parathallis (cephalodiis) irregulariter obsitus pallidis, arachnoideis, laxe contextis aut thallo adnatis repentibusque, tenuibus, Scytonemata continentibus vaginis decoloribus gelatinosis instructa et hyphis normalibus bene obducta, hypothallo nullo distincto. Apothecia 1—0.5 mm lata, circ. 0.3 mm crassa, sparsa, orbicularia, basi constricta, disco plano aut concavo, fusco aut rufo,

opaco, nudo, margine prominente aut discum aequante, comparate sat crasso, persistente, pallido, integro. Perithecium plectenparenchymaticum, cavitatibus cellurum oblongis aut ellipsoideis aut subglobosis, 0.004—0.003 mm latis, membranis sat tenuibus, dilute pallidum aut sordide albidum, in medio apothecii cyanescenti-aeruginosum, extus pilosum, pilis vulgo pallidis, 0.007—0.006 mm crassis. Hypothecium rufescens, in medio apothecii aeruginosum, in parathecium tenue fuscescensque continuatum. Hymenium circ. 0.120 mm crassum, jodo persistenter caerulescens. Epithecium dilute pallidum aut decoloratum. Paraphyses ramoso-connexae, apicibus clavato-incrassatis, tubulis tenuissimis. Sporae solitariae, decolores aut demum dilute pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.094—0.110, crass. 0.022—0.026 mm, membrana haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. vulgo 0.004—0.003 mm, tantum simplicia visa. — Cephalodiis (quae melius *parathalli* nominantur) a Sp. *Leprieurii* var. *concrustante* distinguitur.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Ad folia plantae *Pothos*.

16. **Sp. phycophorum** Vain. sp. nov.

Thallus crustaceus, sat tenuis, verrucoso-areolatus, areolis 0.2—0.3 (0.1—0.4) mm latis, difformibus, convexis aut verrucaeformibus aut partim applanatis, dispersis aut partim irregulariter confluentibus contiguisve, stramineo-glaucescentibus, levissime nitidis, nec KHO, nec $CaCl_2O_2$ reagentibus, gonidia pleurococcacea continentibus, sorediis destitutus, ex hyphis formatus crebre contextis, tenuibus, leptodermaticis, praesertim in partibus vetustioribus parathallis (cephalodiis) filiformibus, arachnoideis, pallidis tenuiter obductus, hypothallo nullo distincto. Parathalli e trichomatibus Scytonematis formati 0.010—0.012 mm crassis, hyphis obductis, heterocystis intercalaribus. Apothecia 1—0.5 mm lata, circ. 0.018—0.016 mm crassa, sparsa, orbicularia, basi constricta, disco plano, nigricante, opaco, tenuissime pruinoso aut nudo, margine haud aut parum

prominente, sat tenui aut mediocri, persistente, pallido aut albido, integro. Perithecium plectenparenchymaticum, cavitatibus cellularum globosis, 0.008—0.006 mm latis, membranis tenuibus, albidum, in medio apothecii subtus aeruginoso-cyanescens, in margine tenue aut evanescens, pilosum, pilis circ. 0.10—0.18 mm longis, 0.007—0.006 mm crassis, pachydermaticis, cavitatibus cellularum oblongis aut elongatis, 0.0015 mm latis. Hypothecium aeruginoso-fuligineum, KHO non reagens, tenue, circ. 0.020 mm crassum, in parathecium continuatum. Hymenium 0.090—0.080 mm crassum, jodo persistenter caerulescens. Epithecium sordide pallidum. Paraphyses ramoso-connexae, apice capitato-clavatae et crass. 0.004—0.003 mm, ceterum tubulis 0.0005 mm crassis. Sporae solitariae, decolores aut demum dilute pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.060—0.072, crass. 0.015—0.022 mm, haud gelatinosae. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.005—0.006 mm, tantum simplicia visa. — A *Sp. phycophilo* thallo areolato et hypothecio aeruginoso differt.

Polillo, *Robinson*. Ad folia *Cycadis*.

17. **Sp. trichophorum** Vain. sp. nov.

Thallus crustaceus, sat tenuis, verrucoso-areolatus, areolis 3—1 mm latis, difformibus, convexis aut verrucaeformibus, dispersis aut partim contiguis, albido-glaucescentibus, levissime nitidis, KHO non reagentibus, parathallis (cephalodiis) filiformibus, arachnoideis, Scytonemata continentibus, pallidis, hypothallo nullo distincto. Apothecia lat. usque ad 1.2 mm, crass. circ. 0.3 mm, sparsa, orbicularia, basi constricta, disco plano, rufo, opaco, nudo, margine leviter aut haud prominente, sat tenui aut mediocri, persistente, pallido, piloso, integro. Perithecium plectenparenchymaticum, cavitatibus cellularum subglobosis, 0.010—0.007 mm latis aut interdum —0.018 mm latis, membranis sat tenuibus, albidum, in medio apothecii aeruginoso-cyanescens, pilosum, pilis 0.010—0.005 mm crassis, pachydermaticis. Hypothecium rufescens, tenue, in parathecium tenue rufescensque continuatum. Hymenium 0.100—0.090 mm crassum, jodo persistenter

caerulescens. Epithecium pallidum. Paraphyses arcte cohaerentes, parce ramoso-connexae, crass. 0.001—0.0007 mm. Sporae solitariae, decolores aut demum pallidae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.056—0.090, crass. 0.012—0.025 mm, haud gelatinosae. Gonidia pleurococcacea. — Proxime affine est *Sp. phycophoro*, at colore hypothecii et disci ab eo differens. *Scytonema* in vera symbiose cum his *Sporopodiis* viget.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Ad folia plantae *Pothos*.

8. **Bombyliospora** Mass.

1. **B. domingensis** (Pers.) Vain. (Étud. Lich. Brés. II 33).

Var. **colorata** Vain.

Thallus fulvescenti- vel flavescenti-maculatus. Apothecia margine fulvo aut pallescente.

Insula Comiran, *Merrill 7169*. Ad truncum arboris.

Var. **glaucotropa** Nyl. Vain. Addit. Lich. Antill. (1914) 124.

Thallus cinereo-glaucescens aut cinereo-pallescens. Apothecia margine fulvo aut pallescente.

Mindanao, Distr. Davao, insula Samal, *Copeland 848*. Insula Comiran, *Merrill 7172*. Ad truncos arborum.

2. **B. nigrata** (Müll. Arg.) Vain. (Étud. Lich. Brés. II 32). *Patellaria chloritis* v. *nigrata* Müll. Arg. Lich. Beitr. (Fl. 1881) n. 300 (435, 1029), haud *P. nigrata* Müll. Arg. (Lich. Beitr., 1888, n. 1432), quae ad *Bilimbiam* pertinet.

Thallus albido-glaucescens, verrucoso-inaequalis, crassitudine mediocris, intus albus. Apothecia 1.7—1.2 mm lata, disco sat plano, nigro, nudo, margine sat tenui aut mediocri, integro, nigro, nudo, persistente. Hypothecium fuscescens. Hymenium jodo persistenter caerulescens. Epithecium fusco-rufescens. Paraphyses laxe cohaerentes, simplices, crass. 0.001 mm. Sporae solitariae, decolores, oblongae, 9-septatae, long. 0.094—0.124, crass. 0.024—0.026 mm.

Mindanao. Distr. Davao, mons Apo, alt. 6000 ped., *Copeland 1090* pr. min. p. Ad corticem arboris.

3. **B. melanocarpa** (Nyl.) Vain. *Lecidea* Nyl. Lich. Exot. (1859) 260. *Patellaria* Müll. Arg. Lich. Beitr. (Fl. 1882) n. 435.

Thallus tenuis, leviter subverrucoso-inaequalis, continuus, stramineo-albicans, leviter nitidus, intus albus, KHO parum reagens, hypothallo nigricante limitatus. Apothecia 2.5—0.7 mm lata, demum sat crassa, sparsa, orbicularia, basi leviter constricta, late adnata, disco plano aut demum convexo, nigro, nudo, opaco, margine sat crasso, demum tenuiore aut excluso, primum leviter prominente, integro, nigro, leviter nitido, nudo. Perithecium in margine rufescens, KHO non reagens, basi sordide albidum. Hypothecium rufescens aut parte superiore anguste albidum. Hymenium circ. 0.150 mm crassum, guttulas oleosas continens, jodo leviter caerulescens, dein vinose rubens. Epithecium rufescens, KHO non reagens. Paraphyses laxe cohaerentes, simplices, crass. 0.001 mm. Sporae solitariae, decolores, oblongae, apicibus rotundatis, 7—5-septatae, long. 0.075—0.106, crass. 0.025 mm. Gonidia ad Pleurococcum pertinentia, globosa, tantum simplicia visa, diam. 0.006—0.008 mm. — Habitu omnino similis *B. nigratae* (Müll. Arg.), at sporis et reactione hymenii ab ea differens.

Luzon, Subprov. Benguet, *Merrill 7936* pr. p. Ad truncum arboris.

9. **Catillaria** (Mass.) Vain.

Subg. 1. **Psorotheciun** (Mass.) Vain.

1. **C. sulphurata** (Mey. et Flot.) Vain. *Lecidea* Vain. Étud. Lich. Brés. II 35.

Var. **phaeocheila** Vain. (Lich. Bras. Exs. n. 536, 572, 810, 821, 847, 1007).

Apothecia margine fuscescente aut nigricante, strato thallino haud obducto. — Sporae reniformes, curvatae, 1-septatae, vulgo 4:nae, long. circ. 0.062—0.052, crass. 0.024—0.022 mm. Hypothecium superne albidum, inferne fuscescens.

Luzon, Subprov. Cagayan, *For. Bur. 16804 Curran*; Subprov. Infugao, mons Polis, *Bur. Sci. 20350 McGregor*; Subprov. Benguet, alt. 1500 m, *Merrill 7959, 7999* pr. p., Pauai, *Copeland 1348* pr. p., *1351*. Negros, Canlaon Volcano, alt. 5000 ped., *Merrill 6880*. Mindanao, Distr. Davao, mons Apo, alt. 6000 ped., *Copeland 1090*; Distr. Zamboanga, alt. 3900 ped., *Copeland* litt. *G*. Ad truncos arborum.

Var. **ochrocheila** Vain.

Apothecia margine pallescente aut cinerascente aut (in formis intermediis) superne fuscescente, strato thallino haud obducto. — Sporae reniformes, curvatae, 1-septatae, vulgo 6:nae aut abortu pauciores, long. 0.070—0.051, crass. 0.030—0.010 mm. Hypothecium superne albidum aut pallidum, inferne pallidum. Hymenium circ. 0.2 mm crassum, jodo caerulescens, ascis demum violascentibus. Epithecium rubricoso-rufescens. Paraphyses simplices, apice arcte, ceterum laxe cohaerentes, crass. 0.001 mm, apicem versus leviter incrassatae. — Saepe in v. *phaeocheilam* transit.

Luzon, Subprov. Benguet, *Bur. Sci. 12937 Fénix*, alt. 1500 m, *Merill 7999* pr. p., mons Tonglon, alt. 1700 m, *Merrill 7977*, Pauai, *Copeland 1348* pr. p., *Bur. Sci. 8564, 8634* pr. p. *McGregor*; Subprov. Pampanga, mons Arayat, *For. Bur. 19345 Curran*; Subprov. Bataan, mons Mariveles, *Merrill 3975, 6258*; Subprov. Banajao, *Bur. Sci. 9787 Robinson*; Subprov. Ifugao, mons Polis, *Bur. Sci. 20353 McGregor*. Ad truncos arborum.

Var. **lecanocheila** Vain.

Perithecium pallidum, subtus aut in margine toto quoque strato thallino stramineo irregulariter demum obductum. — Sporae reniformes, curvatae, 1-septatae, vulgo 4:nae, long. circ. 0.070, crass. 0.034 mm. Hypothecium superne albidum, inferne pallidum aut dilute rufescens. Gonidia diam. 0.005—0.007 mm. — In v. *ochrocheilam* in fere omnibus speciminibus transit.

Luzon, Subprov. Benguet, Pauai, alt. 2100 m, *Bur. Sci. 8542* pr. p., *8560, 8608, 8642, 8645* pr. p., *8648* pr. p., *8653, 8654* pr. p. *McGregor, Copeland 1349, 1370* pr. p. Ad truncos arborum crescit.

2. **C. ophthalmocarpa** Vain. sp. nov.

Thallus crustaceus, crassitudie mediocris, continuus, verrucoso-inaequalis, verrucis difformibus aut sat regularibus, 0.5—0.2 mm latis, contiguis, albidus aut sordide albicans, sat opacus, KHO dilute lutescens, sorediis destitutus, hypothallo nigricante aut obscurato partim limitatus. Apothecia 3.5—1.5 mm lata, crassitudine mediocria (circ. 0.26 mm), basi bene constricta, disco plano aut demum leviter convexo, nigro, nudo, opaco, margine sat crasso aut

sat tenui, haud aut parum prominente, integro, albo aut pallido, persistente aut demum attenuato aut subexcluso. Perithecium strato corticali in summo margine evanescente, basim versus 0.020—0.040 mm crasso, decolore, cartilagineo, ex hyphis formato radiantibus, pachydermaticis, conglutinatis, cavitatibus cellularum 0.001—0.002 (-0.005) mm latis, saepe oblongis, strato myelohyphico albo, impellucido, ex hyphis formato crebre contextis, aëre disjunctis. Hypothecium purpureum aut obscure violascens, circ. 0.060—0.080 mm crassum. Hymenium 0.080—0.140 mm crassum, jodo persistenter caerulescens. Epithecium aeruginoso-fuligineum, KHO non reagens. Paraphyses arcte cohaerentes, membranis gelatinosis, tubulis 0.0015 mm crassis. Sporae 8:nae aut pauciores, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, rectae, 1-septatae, haud constrictae, long. 0.020—0.028, crass. 0.008—0.014 mm, membrana modice incrassata, haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.005—0.008 mm, tantum simplicia visa.

Luzon, Subprov. Benguet, *Merrill 7948*, mons Tonglon, alt. 2000 m, *Merrill 7974*, mons Pulog, alt. 8000 ped., *For. Bur. 16357 Curran*, *Merrill*, *Zschokke*. Mindanao, Distr. Davao, mons Apo, alt. 6000 ped., *Copeland 1090* pr. p. Ad truncos arborum.

3. **C. microphthalma** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, verruculoso-inaequalis, verruculis circ. 0.1—0.2 mm latis, contiguis aut dispersis, saepe depresso-convexis, albidus aut albido-glaucescens, sat opacus, KHO sat dilute lutescens, hypothallo nigricante partim limitatus. Apothecia 1.5—0.6 mm lata, crassitudine mediocria, basi constricta, disco plano aut rarius demum convexo vel subtuberculoso, nigro, nudo, opaco, margine tenui aut sat tenui, haud aut parum prominente, integro, albido aut pallescente, persistente aut demum subexcluso. Perithecium strato corticali circ. 0.015—0.045 mm crasso, decolore, cartilagineo, ex hyphis formato radiantibus, pachydermaticis, conglutinatis, cavitatibus cellularum 0.001—0.003 mm latis, saepe oblongis, strato myelohyphico albo, impellucido, ex hyphis formato irregulariter crebre contextis, aëre disjunctis. Hypothecium

dilute sordideque violascens aut sordide pallidum vel sublividum, tenue, strato decolori, subcartilagineo, tenui impositum. Hymenium 0.060—0.080 mm crassum, jodo caerulescens, demum obscure vinose rubens. Epithecium aeruginoso- aut subolivaceo-fuligineum. Paraphyses arcte cohaerentes, membranis gelatinosis, tubulis vix 0.001 mm crassis. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, rectae aut raro leviter curvatae, 1-septatae, haud constrictae, long. 0.012—0.016, crass. 0.004—0.006 mm, membrana modice incrassata, haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.005—0.012 mm, simplicia aut rarius 2-cellulosa aut glomerulosa. — Proxime affinis est *C. ophthalmocarpae* Vain., at omnibus partibus minor et hypothecio alio modo colorato.

Luzon, Subprov. Laguna, San Antonio, *Bur. Sci. 16681 Ramos.* Panay, Subprov. Iloilo, alt. 250 m, *Bur. Sci. 18169, 18170 Robinson.* Ad corticem *Macarangae* et aliarum arborum.

4. **C. meizoophthalma** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, leviter verruculoso-inaequalis, albidus, opacus, KHO lutescens, hypothallo indistincto. Apothecia 1—4 mm lata, crassitudine mediocria, late adnata, basi constricta, interdum confluentia, disco plano aut leviter convexo, nigro, nudo, opaco, margine sat tenui aut mediocri crassitudine, haud prominente, integro, albido, persistente. Perithecium strato corticali 0.040—0.050 mm crasso, albido, cartilagineo, ex hyphis formato radiantibus, pachydermaticis, conglutinatis, tubulis cellularum 0.001—0.0005 mm latis, strato myelohyphico albo, impellucido, ex hyphis formato irregulariter contextis, aëre disjunctis. Hypothecium superne sordide albidum, inferne sordide smaragdulum, KHO non reagens. Hymenium circ. 0.080—0.060 mm crassum, sine limite distincto in hypothecium transiens, guttulosum, jodo caerulescens, dein partim sordide fuscescens. Epithecium sordide smaragdulum, KHO dilutius coloratum. Paraphyses simplices, arcte cohaerentes (in KHO laxe cohaerentes), crass. 0.0015—0.002 mm, apice saepe leviter incrassatae. Asci clavati. Sporae 8:nae, di-

stichae, decolores, oblongae aut ellipsoideae, apicibus obtusis, rectae aut rarius obliquae, 1-septatae, long. 0.015—0.017, crass. 0.005—0.007 mm, membrana modice incrassata. — *C. microphthalma* Vain. apotheciis minoribus et colore hypothecii ab hac specie differt.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14726* pr. p. Ad corticem arboris n. 14679.

5. **C. kabayanensis** Vain. sp. nov.

Thallus crustaceus, crassus aut crassitudine mediocris (0.8—0.2 mm), verrucoso-inaequalis, verrucis convexis, elevatis, contiguis aut connatis, continuus aut arcolato-diffractus, sordide albidus, opacus, extus et intus KHO lutescens, hypothallo indistincto. Apothecia 2—0,7 mm lata, basi constricta, late adnata, demum crassa, disco plano, demum convexo, nigro, nudo, opaco, margine sat tenui, integro, nigro, opaco, primum prominente, demum excluso. Perithecium extus in margine aeruginosum, intus et inferne albidum, infra hypothecium hyphis irregulariter contextis, aëre disjunctis, ceterum ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis, cavitatibus cellularum oblongis aut ellipsoideis, 0.0015 mm latis. Hypothecium purpureum, KHO non reagens, superne ex hyphis erectis formatum. Parathecium purpureum. Hymenium circ. 0.060 mm crassum, jodo persistenter caerulescens. Epithecium aeruginoso- aut olivaceo-fuligineum, KHO non reagens. Paraphyses arcte cohaerentes, simplices aut apice furcatae, membranis gelatinosis, tubulis 0.0015 mm crassis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut ellipsoideae, apicibus rotundatis aut obtusis, rectae, 1-septatae, haud constrictae, long. 0.013—0.017, crass. 0.005—0.006 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. circ. 0.008—0.006 mm, simplicia aut 4-cellulosa aut glomerulosa. — A specie praecedente thallo verruculoso et reactione hymenii differt.

Luzon, Subprov. Benguet, Kabayan, *Merrill 4872*. In rupe.

6. **C. pauaiensis** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus aut demum rimulosus, sat laevigatus aut levissime verruculoso-inaequalis, glaucescenti-

albidus, sat opacus, KHO demum leviter fulvescens, hypothallo nigricante limitatus. Apothecia 1.2—0.6 mm lata, crass. circ. 0.34 mm, basi bene constricta, disco plano aut rarius demum leviter convexo, nigro, nudo, opaco, margine tenui, haud aut parum prominente, superne subacutato, integro aut demum flexuoso, atro, saepe leviter nitido, persistente. Perithecium strato corticali circ. 0.020—0.025 mm crasso et superne tenuiore, cyanescente aut aeruginoso aut inferne albido, cartilagineo, ex hyphis formato radiantibus, pachydermaticis, cavitatibus cellularum 0.001 mm latis, elongatis, strato interiore ex hyphis formato partim radiantibus, partim irregulariter contextis, conglutinatis, dilute sordide cyanescente et partim albido pallidove. Hypothecium sordide violascens aut partim aeruginosum, KHO non reagens, strato pallido impositum tenui, in parathecium continuato. Hymenium circ. 0.080—0.085 mm crassum, jodo persistenter caerulescens. Epithecium aeruginoso-fuligineum aut cyanescens aut partim in eodem apothecio caeruleo-violascens, KHO non reagens. Paraphyses arcte cohaerentes, simplices, membranis gelatinosis, tubulis tenuissimis, vix 0.001 mm crassis. Asci clavati. Sporae 8:nae aut 6:nae aut 4:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis, rectae, 1-septatae (saepe spurie 3-septatae, contento in 4 partes diviso, at in spora KHO tractata tantum unum septum observatur), haud constrictae, long. 0.014—0.022, crass. 0.005—0.007 mm, membrana modice incrassata, haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.007—0.009 mm, tantum simplicia visa.

Luzon, Subprov. Benguet, Pauai, alt. 2100 m, *Bur. Sci. 8548 McGregor.* Sina, Prov. Kwangtung, in montibus Loh Fau (Lofaushan), *Merrill 11193.* Ad corticem arboris. — Hic notentur: *Psorotheciopsis decipiens* Rehm Hedwigia 1900 p. 217, Ascom. Philipp. III (The Philipp. Journ. of Science VIII 5, C, Bot. 1913) p. 404, et var. *bispora* Rehm Hedwigia 1905 p. 9, Ascom. Philipp. III p. 404, Sacc. Syll. Fung. XVI p. 746, XVIII p. 98, gonidiis forsan destitutae et *Psorotheciis* analogae.

7. **C. maquilingensis** Vain. sp. nov.

Thallus crustaceus, sat tenuis, sat continuus aut demum rimulosus, laevigatus aut leviter verruculoso-inaequalis, glaucescenti-

albidus, sat opacus, KHO leviter flavescens aut demum fulvescens, hypothallo indistincto. Apothecia 1.2—0.6 mm lata, sat tenuia, basi constricta, disco plano aut rarius demum leviter convexo, nigro, nudo, opaco, margine tenui, haud aut parum prominente, integro, atro, leviter nitido aut opaco, persistente aut demum excluso. Perithecium ex hyphis formatum conglutinatis, irregulariter contextis et in parte exteriore radiantibus, membranis modice incrassatis, cavitatibus cellularum circ. 0.001 mm latis, sordide violaceo-purpureum et extus aeruginosum aut partim albidum, KHO non reagens. Hypothecium sordide violaceo-purpureum, KHO non reagens. Hymenium 0.090—0.095 mm crassum, jodo caerulescens deindeque vinose rubens. Epithecium aeruginosum, KHO dilutius coloratum. Paraphyses arcte cohaerentes, increbre ramoso-connexae, gelatinosae, tubulis 0.001 mm crassis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut rarius ovoideo-oblongae, apicibus obtusis aut rotundatis, rectae, 1-septatae, haud constrictae, long. 0.014—0.017, crass. 0.005—0.008 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.006—0.010 mm, simplicia aut parce 2-cellulosa. — Similis *C. pauaiensi*, at saxicola et sporis minoribus et apotheciis tenuioribus.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17242, 17243.* In rupibus.

Subg. 2. **Biatorina** (Mass.) Th. Fr.

8. **C. semecarpi** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus, laevigatus, glaucescens, KHO non reagens, hypothallo indistincto. Apothecia 0.35—0.15 mm lata, crass. circ. 0.080 mm, basi late adnata, demum leviter constricta, sat crebra, disco plano aut demum leviter convexo, testaceo-rufescente, nudo, opaco, margine inconspicuo aut tenuissimo, subconcolore, integro. Perithecium pallidum, crass. 0.020—0.015 mm, plectenparenchymaticum, leptodermaticum, cavitatibus cellularum subglobosis aut ellipsoideis aut oblongis, 0.004—0.003 mm latis. Hypothecium pallidum, jodo caerulescens. Hymenium

0.040 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut dilute pallidum. Paraphyses simplices, membranis gelatinosis, tubulis 0.0015 mm latis. Asci clavati, in apice membrana leviter incrassata. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, altero apice rotundato, altero obtuso, 1-septatae, haud constrictae, long. 0.013—0.008, crass. 0.005—0.004 mm. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.008—0.004 mm, simplicia aut pr. p. 4-cellulosa.

Luzon, Subprov. Laguna, Los Baños, *Bur. Sci. 17365* pr. p. *Robinson*. Ad folia *Semecarpi cuneiformis*.

9. **C. oospora** Vain. sp. nov.

Thallus crustaceus, tenuissimus aut tenuis, continuus aut rarius varie interruptus vel dispersus, laevigatus aut (in n. 11887) granuloso-inaequalis, granulis minutissimis, verruculaeformibus, crebris aut subdispersis, albido-stramineus aut (in n. 11887) stramineus, nec KHO, nec $CaCl_2O_2$, nec his solutionibus mixtis reagens, hypothallo nullo distincto. Apothecia 0.38—0.2 mm lata, tenuia, basi late adnata, leviter aut parum constricta, saepe sat crebra, disco plano aut rarius demum leviter convexo, testaceo-pallido aut pallescente, nudo aut tenuissime pruinoso, opaco, margine tenuissimo, haud prominente, albido aut albido-pallescente, integro, persistente aut demum excluso. Perithecium dilute stramineum aut albidum, gonidiis destitutum. Hypothecium stramineum aut pallidum aut albidum. Hymenium circ. 0.040 mm crassum, jodo persistenter caerulescens. Epithecium stramineum aut pallidum aut fere decoloratum. Paraphyses ramoso-connexae, crass. 0.001 mm. Asci clavati. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, altero apice rotundato, altero obtuso, 1-septatae aut parcius simplices, haud constrictae, long. 0.015—0.011, crass. 0.005—0.003 mm. Gonidia ad Pleurococcum pertinentia, globosa, simplicia aut raro 4-cellulosa.

Luzon, Subprov. Laguna, Los Baños, *Bur. Sci. 17365* pr. p., *17373 Robinson*; Subprov. Rizal, Tanay, *Bur. Sci. 11887 Robinson, Ramos* (v. **mangiferae** Vain., thallo granuloso-inaequali). Ad folia *Semecarpi cuneiformis*, *Mangiferae* (11867) et aliarum arborum.

10. **Lecidea** (Ach.) Th. Fr.

Subg. 1. **Psora** (Hall.) Th. Fr.

1. **L. parvifolia** Pers. in Gaudich. Voy. Uran. (1826) p. 192; Nyl. Lich. Nov.-Gran. (1863) p. 457, ed. 2 (1863) p. 54.

Luzon, Subprov. Ilocos Norte, *Bur. Sci. 33386 Ramos.* Ad corticem arboris.

2. **L. phaeoglauca** Vain. sp. nov.

Thallus squamulosus, squamulis 1.2—0.3 mm longis, adnatis, aut apice demum leviter adscendentibus, demum saepe plus minusve imbricatis, planis, superne glaucescentibus, parum nitidis, KHO non reagentibus, incisis laciniatisque, laciniis 0.3—0.1 mm latis, margine saepe demum sat parce isidiosis, isidiis cylindricis, 0.5—0.2 mm longis, circ. 0.1 mm latis, simplicibus, decumbentibus, hypothallo bene evoluto, ad ambitum thalli et saepe inter squamas conspicuo, byssoideo, fusco. Apothecia 1.5—0.4 mm lata, simplicia solitariaque aut saepe aggregata aut tuberculoso-prolifera confluentiave, basi bene constricta, disco isabellino- aut testaceo-pallido aut testaceo-rufescente, sat opaco, nudo, plano aut vulgo demum depresso-convexo, margine concolore aut vulgo fuscescente, tenui aut tenuissimo, vulgo demum excluso, integro. Perithecium electrino-lutescens aut extus passim rufescens, basim versus saepe albidum, ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum oblongis aut rarius ellipsoideis, 0.003—0.002 mm latis, membranis modice incrassatis, rhizinis instructum. Hypothecium electrino-lutescens aut fulvescens, KHO intensius coloratum aut rufescenti-fulvescens, ex hyphis erectis formatum. Hymenium 0.040 mm crassum, jodo caerulescens. Epithecium decoloratum aut passim dilute lutescens. Paraphyses arcte cohaerentes, crass. 0.002 mm, apice leviter clavato-incrassatae, simplices, sat crebre septatae. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, rectae, simplices, long. 0.008—0.010, crass. 0.002—0.0022 mm. Gonidia ad Pleurococcum pertinentia, diam. 0.007—0.010 mm, vulgo simplicia, raro bicellulosa. — Affinis est *L. javanicae* Schaer. in Moritzi Syst. Verz. (1845—6) 128, quae secund. specim. orig. n.

20497 in herb. Nyl. (Zolling. n. 838* e Java) hypothallo pallido, parcissime evoluto, ab ea differt, at thallo subsimili, parce isidioso instructa est. Diversa etiam est *L. parvifolia* v. *fibrillifera* Nyl. Exp. Lich. Cal. (1861) 47 (Müll. Arg. Lich. Beitr. n. 494).

Insula Balabac, *Bur. Sci. 527 L. Mangubat.* Luzon, Subprov. Bataan, Limay, *Bur. Sci. 963 Robinson* (f. apotheciis paullo obscurioribus, testaceo-rufescentibus). Ad truncos arborum.

3. **L. porphyromelaena** Vain. sp. nov.

Thallus squamulosus, squamulis long. 2—1 (—0.8) mm, adnatis aut decumbentibus aut demum leviter adscendentibus, dispersis aut plus minusve imbricatis, planis, superne glaucescentibus aut cinereo-glaucescentibus, sat opacis, KHO non reagentibus, incisis laciniatisque, laciniis 0.5—0.3 (—0.2) mm latis, isidiis destitutus, hypothallo bene evoluto, ad ambitum thalli et saepe inter squamas conspicuo, byssoideo, fusco, rufo aut nigricante. Apothecia 1—0.5 mm lata, saepe leviter irregularia, aggregata contiguaque, aut rarius solitaria, basi constricta, disco nigricante aut rarius fuscescente, nudo, parum nitido, plano, margine tenui aut sat tenui, integro, nigricante, nudo, parum nitido aut opaco, parum aut haud prominente, persistente aut demum excluso. Perithecium purpureo-fuscescens, KHO violaceo-purpureum, ex hyphis formatum radiantibus, 0.008—0.007 mm crassis, conglutinatis, pachydermaticis, cavitatibus cellularum tenuibus, rhizinis instructum. Hypothecium dilute purpureo-fuscescens aut fuscescenti-pallidum, inferne dilutius coloratum, ex hyphis erectis formatum, partibus purpureis KHO purpureo-violascentibus. Hymenium 0.030—0.040 mm crassum, jodo persistenter caerulescens. Epithecium pallidum. Paraphyses arcte cohaerentes, simplices, sat crebre septatae, cavitatibus cellularum angustissimis, membranis modice incrassatis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, long. 0.010—0.013, crass. 0.0025—0.003 mm, rectae. Gonidia globosa, diam. 0.006—0.010 mm, tantum simplicia visa, ad pleurococcum pertinentia, ut videtur. — *L. pyrrhomelaena* Tuck. subsimilis est, at laciniis thalli multo angustioribus a planta nostra differt.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6256, 6273*; Subprov. Bontoc, *Vanoverbergh 1023* (ster.). Ad truncos arborum.

4. **L. griseocastanea** Vain. sp. nov.

Thallus verruculosus granulosusque et squamulosus, squamulis 0.2—0.4 mm longis, decumbentibus aut adscendentibus, demum saepe imbricatis, convexis aut planis, superne stramineis aut albidis, sat opacis, KHO non reagentibus, incisis laciniatisque, laciniis angustissimis, 0.070—0.050 mm latis, isidiis destitutus, hypothallo sat tenui, byssoideo, albido, inter squamulas et verruculas conspicuo. Apothecia circ. 2—1 mm lata, saepe leviter irregularia, solitaria aut aggregata aut aggregato-prolifera, basi constricta, disco griseo-castaneo aut fuscescente, nudo, opaco, depresso-convexo aut plano, margine tenui, haud prominente, integro, dilutius colorato aut testaceo aut inconspicuo. Perithecium pallidum, ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum oblongis, 0.002—0.0015 mm latis, membranis sat crassis. Hypothecium parte superiore rubricosum et rubricoso-fulvescens et ex hyphis erectis conglutinatis formatum, in parte crassa inferiore pallidum aut decoloratum et hyphis irregulariter contextis, pachydermaticis, KHO non reagens. Hymenium 0.035—0.030 mm crassum, jodo caerulescens, dein vinose rubens. Epithecium pallidum aut partim fulvo-rubescens. Paraphyses arcte cohaerentes, simplices, increbre septatae, crass. 0.002—0.0015 mm, apicem versus leviter incrassatae. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae, apicibus obtusis, rectae, long. 0.011—0.013, crass. 0.0025—0.003 mm. Gonidia globosa, diam. 0.006—0.008 millim., simplicia aut raro 4-cellulosa, ad Pleurococcum pertinentia. — Thallo subsimilis est *L. parvifoliae* Pers. in Gaudich. Uran. Bot. (1826) p. 192 sec. specim. orig. n. 20543 e Taiti in herb. Nyl., sed apotheciis ab ea differt.

Luzon, Subprov. Benguet, Pauai, *Merrill 6651*. Ad corticem arboris.

5. **L. hypochrysea** Vain. sp. nov.

Thallus subsquamuloso-crustaceus, areolatus, areolis tenuibus, verruculaeformibus, diam. vix 0.05 mm latis, aut partim squamulae-

formibus, 0.5—1 mm longis, 0.1—0.2 mm latis, contiguis aut confluentibus aut partim dispersis, adnatis, cinereo-glaucescentibus, sat opacis, KHO non reagentibus, isidiis destitutus, hypothallo nigricante, tenui, crebre contexto, passim inter areolas thalli conspicuo. Apothecia 0.7—0.3 mm lata, sat tenuia, 0.16—0.23 mm crassa, solitaria, adnata, basi haud distincte constricta, disco testaceo- aut ferrugineo-testaceo aut raro demum rufescente, nudo, parum nitido, depresso-convexo aut rarius plano, margine tenui, haud prominente, integro, nigricante, nudo, opaco, persistente. Perithecium purpureum, ex hyphis formatum 0.005 mm crassis, radiantibus, maxima parte conglutinatis, apicibus in superficie marginis partim liberis, membranis modice incrassatis, cavitatibus cellularum oblongis, 0.0015 mm crassis. Hypothecium fulvo-rubescens aut fulvum, ex hyphis erectis formatum, KHO violaceo-purpureum. Hymenium 0.025—0.030 mm crassum, totum dilute lutescens, sine limite distincto in hypothecium transiens, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, sat crebre septatae, tubulis 0.0005—0.001 mm crassis, membranis gelatinosis. Asci clavati. Sporae 8:nae, polystichae, decolores, oblongae aut elongatae, apicibus obtusis, rectae, simplices, long. 0.010—0.015, crass. 0.0015—0.003 mm. Gonidia globosa, diam. 0.005—0.008 mm, ad Pleurococcum pertinentia. — Thallo intermedia est inter *Psoras* et *Biatoras*, at apotheciis ad *Psoras* pertinet.

Mindanao, Subprov. Butuan, 320 m s. m., *Weber 1393*. Ad corticem arboris.

Subg. 2. **Biatora** (Fr.) Th. Fr.

6. **L. haematomma** Vain. sp. nov.

Thallus crustaceus, crassus aut sat crassus (1 mm aut tenuior), continuus aut demum rimoso-diffractus, laevigatus aut leviter inaequalis, albidus, sat opacus, intus albus, nec KHO, nec $CaCl_2O_2$ reagens, sorediis destitutus, hypothallo indistincto. Apothecia 2.2—1.4 mm lata, crassitudine mediocria, late adnata, basi demum constricta, disco plano, fusco-nigricante, nudo, opaco, margine albido, sat

crasso, integro aut rarius verrucoso, haud prominente, simplice. Excipulum albidum, gonidiis destitutum, ex hyphis formatum irregulariter contextis, haud conglutinatis. Hypothecium rufescens. Parathecium evanescens, rufescens, aut deficiens. Hymenium 0.120—0.140 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut rubescenti-fuscescens, KHO non reagens. Asci clavati. Paraphyses arcte cohaerentes, increbre ramoso-connexae, tubulis 0.0007—0.0015 mm crassis, membranis sat crassis, gelatinosis. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae, apicibus rotundatis, simplices, long. 0.038—0.060, crass. 0.024 mm, membrana sat tenui. Gonidia pleurococcacea. — Species insignis, ad *Lecanoras* accedens.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8624 McGregor.* Ad corticem arboris.

7. **L. isidiza** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus, isidiis brevibus, circ. 0.5 mm longis aut brevioribus, cylindricis aut fere verrucaeformibus, circ. 0.1 mm crassis, crebris, erectis, simplicibus aut leviter ramosis instructus, glauco-cinerascens, intus albus, KHO parum reagens, hypothallo nullo distincto. Apothecia 1.2—0.8 mm lata, crassitudine circ. 0.4 mm, basi bene constricta, disco concavo aut fere plano, fusco, nudo, opaco, margine modice incrassato, verrucoso-crenato, verrucis 0.2—0.15 mm latis ornato, cinereo-pallido, prominente et discum bene superante, intus albido et KHO intense lutescente. Perithecium comparate tenue (circ. 0.050—0.040 mm crassum, in margine crassius), decoloratum, chondroideum, ex hyphis formatum irregulariter contextis, conglutinatis, membranis leviter incrassatis, tubulis oblongis, vix 0.001 mm latis. Hypothecium fusco-nigrum, crassum, KHO non reagens, in parathecium haud continuatum. Hymenium 0.180—0.160 mm crassum, jodo caerulescens, dein partim decoloratum, partim persistenter caerulescens. Epithecium pallidum, KHO non reagens. Paraphyses arcte cohaerentes, simplices, tubulis 0.001—0.0015 mm crassis, gelatinam e membranis formatam percurrentibus. Asci cylindrici aut clavati.

Sporae 8:nae, monostichae aut subdistichae, decolores, ellipsoideae, apicibus obtusis aut rotundato-obtusis aut rarius rotundatis, simplices, membrana incrassata, crass. 0.003, in apicibus 0.004 mm, exosporio distincto, leviter increbreque rugoso, long. 0.022—0.031, crass 0.012—0.018 mm. Gonidia pleurococcacea, saepe glomerulosa.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 15007* pr. p. Ad corticem arboris n. 15001.

8. **L. polisensis** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris, continuus, albidus aut sordide albicans, intus albus, isidiis instructus brevibus, 0.2—0.5 mm longis, cylindricis aut fere verrucaeformibus, vulgo circ. 0.2—0.3 mm crassis, crebris aut constipatis, erectis, simplicibus, thallo concoloribus, intus sulphureis, KHO aurantiaco-rubescentibus, hypothallo nullo distincto. Apothecia 1—2 mm lata, crassitudine mediocria, basi haud aut rarius leviter constricta, disco concavo aut plano, fusco-nigricante aut fusco, nudo, sat nitido aut opaco, margine sat crasso, thallo concolore, verrucoso-crenato, verrucis crebre ornato 0.2—0.3 mm latis, gonidia continentibus, intus sulphureis et KHO aurantiaco-rubescentibus, bene prominente et discum bene superante. Perithecium strato corticali subdecolorato aut albido, subchondroideo, marginem versus evanescente, basin versus 0.020—0.070 mm crasso, ex hyphis formato irregulariter contextis, conglutinatis, modice pachydermaticis, cavitatibus cellularum angustis, strato medullari sulphureo, ex hyphis formato irregulariter contexis, crebris, haud conglutinatis, granulis sulphureis amorphis incrustatis. Hypothecium fusco-nigricans. Hymenium 0.160—0.140 mm crassum, jodo persistenter caerulescens. Epithecium testaceo-rufescens et partim pallescens. Paraphyses sat laxe cohaerentes, simplices, crass. 0.0015 mm, apicibus leviter incrassatis. Sporae binae, decolores, oblongae, apicibus obtusis aut raro rotundatis, simplices, long. 0.050—0.065, crass. 0.022—0.030 mm, membrana sat crassa aut mediocri, haud gelatinosa. Gonidia pleurococcacea, globosa, diam. 0.006—0.008 mm, vulgo simplicia, parce 2-cellulosa.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20351 McGregor.* Ad corticem arboris.

9. **L. MacGregorii** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, continuus aut rimosus, verrucis instructus 0.25—0.2 mm latis, basi haud constrictis, sat crebre dispersis, cinerascens, opacus, intus albus, KHO extus et intus parum reagens, verrucis intus raro luteis et KHO rubentibus, vulgo (in eodem specimine) intus albis et KHO lutescentibus et demum fulvescentibus, sorediis destitutus, hypothallo nigricante fuscescenteve, crebre contexto, partim limitatus. Apothecia 2.5—0.7 mm lata, crassitudine mediocria, basi constricta, disco plano aut demum leviter convexo, fuscescente aut isabellino-rufescente, nudo, nitido aut opaco, margine cinereo aut cinereo-albicante, sat tenui aut crassitudine mediocri, integro aut demum leviter flexuoso aut parce verrucoso, haud aut leviter prominente, simplice. Perithecium strato corticali cartilagineo tantum basim versus apothecii evoluto, decolore, ex hyphis formato irregulariter contextis, sat leptodermaticis, conglutinatis, cavitatibus cellularum tenuissimis, strato medullari sulphureo, ex hyphis formato irregulariter contextis, haud conglutinatis, gonidiis destituto. Hypothecium fusconigrum aut sordide violaceo-nigricans, KHO non reagens, parathecio defecto. Hymenium 0.120 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut partim rubricoso-rufescens, KHO non reagens. Paraphyses arcte cohaerentes, tubulis 0.001—0.0015 mm crassis, gelatinam haud abundantem, e membranis formatam, percurrentibus, simplices. Asci cylindrici aut raro clavati. Sporae 8:nae aut abortu 6:nae, monostichae aut raro subdistichae, decolores, ellipsoideae, apicibus rotundatis aut obtusis, rectae, simplices, long. 0.018—0.024, crass. 0.010—0.016 mm, membrana modice incrassata. Gonidia Pleurococcacea. — A *L. samoënsi* Zahlbr. parathecio haud usque ad superficiem marginis continuato, colore thalli et sporis minoribus differt et jam colore disci a *L. sorsogona* Vain. distinguitur.

Luzon, Subprov. Benguet, Pauai, alt. 2100 m, *Bur. Sci. 8586 McGregor.* Ad corticem arboris.

10. **L. chrysostigma** Vain. sp. nov.

Thallus crustaceus, sat crassus aut modice incrassatus, continuus aut demum rimulosus, rugulosus et verruculis instructus 0.2—0.1 mm latis, subglobosis, sat crebre dispersis, extus thallo concoloribus, intus intense fulvis et KHO violaceo-rubescentibus, saepe demum s. d. fulvo-efflorescentibus, cinereo- aut olivaceo-glaucescens, opacus, intus albus et KHO non reagens, hypothallo haud aut parum distincto. Apothecia 1.3—0.5 mm lata, crass. circ. 0.3 mm, adpressa, basi constricta, subtus verruculosa, disco plano, nigro aut rufescente, nudo, opaco, margine modice incrassato aut sat tenui, partim verrucoso- et verruculoso-crenulato, haud aut raro leviter prominente, thallo concolore, saepe demum fulvo-efflorescente. Hypothecium fusconigrum, circ. 0.050—0.060 mm crassum, in parathecium continuatum fusconigrum, tenue aut sat tenue, superficiei marginis saepe deficiens. Perithecium ceterum intus instructum strato medullari fulvo, impellucido, ex hyphis formato irregulariter crebre contextis, haud conglutinatis, materia lutescente amorpha incrustatis. Hymenium 0.120—0.130 mm crassum, jodo persistenter caerulescens. Epithecium sordide pallidum aut dilute pallido-fuscescens. Paraphyses arcte cohaerentes, simplices, tubulis 0.002—0.0015 mm crassis, gelatinam, e membranis formatam, haud abundantem, percurrentibus. Asci clavati. Sporae decolores, fusiformi-ellipsoideae, apicibus obtusis, simplices, long. circ. 0.025, crass. 0.013 mm, membrana sat crassa (tantum una spora bene evoluta visa). Gonidia globosa, diam. 0.004—0.008 mm, simplicia aut glomerulosa, ad Pleurococcum pertinentia. — Proxima est *L. samoënsi* Zahlbr. et *L. sorsogonae* Vain., a quibus praesertim medulla verrucarum fulva differt.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14957* pr. p. Ad corticem arboris n. 14826.

11. **L. sorsogona** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, continuus, verrucis instructus 0.3—0.2 mm latis, basi haud aut leviter constrictis, sat crebre dispersis, glaucescenti- aut pallescenti-cinereus, leviter nitidus,

intus albus, KHO nec extus nec intus reagens, verrucis intus luteis et KHO aurantiaco-rubescentibus, extus haud reagentibus, sorediis destitutus, hypothallo nigricante, crebre contexto, limitatus. Apothecia 1.5—0.6 mm lata, crass. circ. 0.34 mm, basi bene constricta, disco plano, nigro, nudo, opaco, margine thallo concolore aut cinereo-albicante, sat tenui, integro aut rarius leviter verrucoso-crenulato, vulgo haud prominente, saepe duplice e prolificatione plus minusve incompleta apothecii, margine paratheciali tenui, nigro, integro raro conspicuo. Perithecium strato corticali cartilagineo, tenui (marginem versus tenuiore), decolore, ex hyphis formato irregulariter contextis, membranis modice incrassatis, conglutinatis, tubulis 0.001—0.002 mm latis, strato medullari luteo, ex hyphis formato 0.006—0.005 mm crassis, irregulariter contextis, haud conglutinatis, materia amorpha lutescente incrustatis. Hypothecium fusconigrum, KHO non reagens, continuatum in parathecium, quod autem parti superiori marginis saepe deficiens. Hymenium 0.110—0.100 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut fuscescenti-pallidum, KHO non reagens. Paraphyses arcte cohaerentes, tubulis 0.001 mm crassis, gelatinam e membranis formatam percurrentibus, simplices. Asci clavati. Sporae 4:nae, monostichae aut distichae, decolores, oblongae aut raro ovoideae, apicibus obtusis aut raro rotundatis, rectae, simplices, interdum membrana modice gelatinoso-incrassata, long. 0.022—0.034, crass. 0.009—0.016 mm. Gonidia diam. 0.004—0.008 mm, simplicia aut saepe demum glomerulosa, ad Pleurococcum pertinentia. — Affinis est *L. samoënsi* Zahlbr. Flecht. Sam. (1907) 27, quae praesertim thallo flavido-glaucescente et disco apotheciorum rufo-fusco ab ea differt. *L. aurigera* Fée thallo *L. sorsogonae* subsimilis, apotheciis ab ea longe distat.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer*, *15007* pr. p. Ad corticem arboris n. 15001.

12. **L. subaurigera** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, continuus aut demum rimulosus, verruculis instructus 0.2—0.1 mm latis, hemisphaericis,

basi haud constrictis, sat crebre dispersis, demum partim difformibus evanescentibusque, glaucescenti-cinerascens, opacus, intus albus, KHO nec extus nec intus reagens, verrucis intus luteis et KHO aurantiaco-rubescentibus, extus haud reagentibus, hypothallo nullo distincto. Apothecia 1.2—0.6 mm lata, crass. circ. 0.42 mm, basi constricta, disco plano aut raro leviter convexo, nigro, nudo, opaco, margine cinereo-albicante, sat tenui, crenato aut verrucoso- vel verruculoso-crenulato, haud prominente. Perithecium strato corticali cartilagineo, decolore, tenui (0.010—0.020 mm crasso, in basi apothecii 0.040 mm crasso), ex hyphis formato irregulariter contextis, conglutinatis, pachydermaticis, cavitatibus cellularum oblongis aut difformibus, 0.002—0.001 mm latis, strato medullari luteo, impellucido, ex hyphis formato irregulariter contextis, haud conglutinatis, materia lutescente amorpha incrustatis. Hypothecium parte inferiore 0.050—0.030 mm crassa fusco-nigra, continuata in parathecium, saepe summo margini deficiens, parte subhymeniali 0.030—0.020 mm crassa subalbida. Hymenium 0.100—0.080 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut rufescenti-pallidum. Paraphyses arcte cohaerentes, simplices, tubulis 0.001 mm crassis, gelatinam e membranis formatam percurrentibus. Asci clavati. Sporae 8:nae aut abortu pauciores, distichae aut monostichae, decolores, ellipsoideae aut subglobosae, apicibus rotundatis aut raro obtusis, simplices, membrana sat tenui aut raro modice gelatinoso-incrassata, long. 0.009—0.016, crass. 0.006 0.011 mm. Gonidia globosa, diam. 0.005—0.008 mm, simplicia aut demum saepe glomerulosa, ad Pleurococcum pertinentia. — *L. aurigera* Fée, perithecio extus et intus fusco-nigricante, strato medullari destituto, haud verruculoso et verruculis thalli intus sulfureis, partim demum aperientibus instructa, ab hac specie bene differt (sec. spec. orig. n. 27698 in herb. Nyl.). *L. subaurigera* magis affinis est *L. graniferae* (Ach.).

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14752* pr. p. Ad corticem arboris n. 14734.

Var. **decolorata** Vain.

Thallus tenuis, verrucis 0.2—0.1 mm latis, albidus, sat opacus, intus albus, KHO nec extus nec intus reagens, verrucis intus albis et KHO non reagentibus aut partim albido-sulfureis et KHO aurantiaco-rubescentibus, hypothallo nigricante, crebre contexto, partim limitatus. Apothecia 0.8—0.5 mm lata, disco plano, nigro aut fusconigro, nudo, opaco, margine albido, sat tenui, crenulato aut verrucoso, haud prominente, margine paratheciali tenui, nigro, integro vulgo evoluto. Perithecium strato corticali cartilagineo, decolore, strato medullari albido aut raro stramineo, impellucido. Hypothecium fusco-nigrum, parte subhymeniali angusta albida. Hymenium 0.080 mm crassum, jodo persistenter caerulescens. Epithecium pallidum. Paraphyses arcte cohaerentes, tubulis tenuibus, gelatinam percurrentibus. Sporae 8:nae, distichae, ellipsoideae, apicibus rotundatis aut obtusis, simplices, long. 0.016—0.020, crass. 0.008—0.012 mm, membrana sat tenui. — Variatio est *L. subaurigerae*, materia lutea parum evoluta ceterisque notis differens. Reactione medullae a *L. granifera* (Ach.) differt.

Cum variatione typica collecta.

13. **L. taytayensis** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris, continuus, cinerascens aut albidus, intus albus, isidiis instructus brevibus, 0.1—0.5 mm longis, cylindricis aut verrucaeformibus, vulgo circ. 0.1—0.2 mm crassis, crebris, erectis, simplicibus, thallo concoloribus aut albidis, intus albis, KHO superne non reagens, intus intense lutescens et demum fulvescens, hypothallo nigricante limitatus. Apothecia 1—2.3 mm lata, crassitudine mediocria, basi constricta, disco plano aut rarius demum convexo, testaceo-lurido aut fuscescente, nudo, opaco, margine modice incrassato, primum prominente, cinereo-testaceo aut griseo, integro, verrucis thallinis et isidiis reptantibus, latere perithecio adnatis, 0.1—0.2 mm crassis demum crebre ornato. Perithecium fuscescens aut partim extus pallidum, ex hyphis formatum conglutinatis, modice pachydermaticis, irregulariter

contextis, superficiem versus partim radiantibus, cavitatibus tenuibus. Hypothecium fusconigrum. Hymenium 0.140 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut testaceum. Paraphyses arcte cohaerentes, simplices aut parce ramoso-connexae, membranis tenuiter gelatinosis, tubulis tenuissimis, 0.0005—0.001 mm crassis. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, simplices, long. 0.014—0.026, crass. 0.010—0.018 mm, membranis modice incrassatis, haud gelatinosis. — Affinis *L. aurigerae* Fée.

Palawan, Taytay, *Merrill 9068*. Ad corticem arboris in silva sicca 60 m s. m.

14. **L. Fénicis** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus aut rarius leviter dispersus, verrucis instructus 0.2 (0.15—0.3) mm latis, hemisphaericis, basi haud constrictis, cinerascens aut partim obscure cinereus, opacus, intus albus, KHO lutescens, verrucis intus sulphureis, KHO rubescentibus, sorediis destitutus, hypothallo fuscescente, crebre contexto, partim limitatus. Apothecia 1.2—0.7 mm lata, crass. circ. 0.25 mm, basi constricta, subtus verruculis cinereo-pallescentibus, intus sulphureis parce iustructa, disco plano aut demum convexo, nigro, nudo, opaco, margine cinereo-fuscescente aut nigricante, tenui, integro, haud prominente, simplice. Perithecium fusconigrum, saepe basim versus extus decoloratum, ex hyphis formatum irregulariter contextis, conglutinatis (in verrucis partim perithecio immersis hyphae sulphureae haud conglutinatae). Hypothecium fusconigrum, KHO non reagens. Hymenium 0.100 mm crassum, jodo persistenter caerulescens. Epithecium fuscorubricosum, KHO non reagens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, apicem versus leviter incrassatis, membranis leviter gelatinoso-incrassatis. Asci clavati aut cylindrici. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.014—0.025, crass. 0.009—0.013 mm, membrana sat tenui aut crassitudine mediocri, haud gelatinosa.

Gonidia pleurococcacea. — Proxime affinis est *L. aurigerae* Fée, quae apotheciis subtus haud verruculosis et sporis minoribus, „long. 0.011—0.016, crass. 0.006—0.008 mm“ (sec. annot. Nyl. in specim. orig. Féei n. 27698 in herb. Nyl.) ab ea differt, at forsan est ejus varietas.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12784 Fénix.* Ad corticem arboris.

15. **L. leucotropoides** Vain. *L. granifera* v. *leucotropoides* Vain. Cat. Welw. Afr. Lich. 424.

Var. **irosina** Vain.

Thallus crustaceus, verrucoso- et verruculoso-inaequalis, sat tenuis, continuus, cinereo-glaucescens, verruculis intus albis, opacus, KHO leviter flavescens, partim hypothallo nigricante, crebre contexto, limitatus. Apothecia 0.7—1.5 mm lata, crassit. mediocria, simplicia aut parce confluentia aut e vetustis prolifera, basi constricta, disco convexo aut plano, isabellino-rufescente aut raro fusco-rufescente, nudo, opaco, margine obscure cinerascente, opaco, tenui, subintegro, haud aut leviter prominente, persistente aut rarius demum subexcluso. Perithecium ex hyphis formatum radiantibus, conglutinatis, intus fusconigrum, extus strato pallido tenui (0.010—0.015 mm crasso) instructum. Hypothecium ex hyphis formatum leptodermaticis, irregulariter contextis, conglutinatis, fusconigrum, KHO non reagens, parte subhymeniali tenui pallida. Hymenium 0.080 mm crassum, jodo persistenter caerulescens. Epithecium dilute rufescens aut partim pallidum, KHO non reagens. Paraphyses arcte cohaerentes, simplices, tubulis 0.001—0.0015 mm crassis, gelatinam, e membranis modice incrassatis formatam, percurrentibus. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae aut oblongae aut raro subglobosae, rectae, simplices, long. 0.009—0.015, crass. 0.006—0.008 mm, membrana sat tenui, haud gelatinosa. Gonidia pleurococcacea, globosa, diam. 0.005—0.007 mm, simplicia aut 4-cellulosa aut demum glomerulosa. — *L. luridescens* Nyl. (Enum. Lich. 120, Lich. Fueg. 11), omnibus

partibus minoribus secund. specim. orig. a *L. hypomela* Nyl. differens, thallo lurido, disco plano, margine obscuro a planta nostra recedit. *L. leucotropoides* var. *theiophora* Vain. autem proxima est var. *irosinae*, quae verruculis thalli intus albis et verruculis marginis evanescentibus ab ea distinguitur.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14905* pr. p. Ad corticem arboris.

Var. **theiophora** Vain.

Thallus crustaceus, tenuis aut sat tenuis, continuus, cinerascens, intus albus, KHO leviter flavescens aut parum reagens, verrucis instructus 0.25—0.2 mm latis, basi haud constrictis, sat crebre dispersis, thallo concoloribus, intus sulphureis aut albido-sulphureis, KHO lutescentibus et demum fulvescentibus, sorediis destitutus, hypothallo nigricante, crebre contexto, limitatus. Apothecia 1.5—0.7 mm lata, crassitudine mediocria, basi constricta, disco plano aut demum leviter convexo, umbrino-fuscescente (inter n. 110 et 90 in Klincks. et Val. Cod. des Coul.), nudo, opaco, margine thallo concolore, tenui, verrucoso-crenulato aut integro laevigatoque, haud prominente, simplice aut margine paratheciali nigricante tenuissimo integro duplicato. Perithecium albidum, ex hyphis formatum radiantibus, conglutinatis, leptodermaticis, cavitatibus cellularum 0.004—0.003 mm latis. Hypothecium fusconigrum, in parathecium continuatum aut parathecio deficiente. Hymenium 0.090—0.080 mm crassum, totum decoloratum aut passim epithecio dilute pallescente, jodo caerulescens. Paraphyses arcte cohaerentes, simplices, cavitatibus cellularum tenuissimis, membranis leviter gelatinoso-incrassatis. Asci clavati. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.013—0.017, crass. 0.008—0.010 mm, membrana sat tenui, haud gelatinosa. — Affinis est *L. aurigerae* Fée, quae verrucis thalli KHO intus aurantiaco-rubescentibus, hypothecio pallidiore et margine apotheciorum haud verruculoso ab ea differt. Colore disci et perithecio cartilagineo a *L. granifera* distinguitur.

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7936* pr. p. Ad corticem arboris.

16. **L. granifera** (Ach.) Vain. *Lecanora* Ach. Syn. Lich. (1814) 163.

Var. **lecanoroides** Vain. *Lecidea granifera* var. *lecanoroides* Vain. Cat. Welw. Afr. Pl. Lich. (1901) 424.

Thallus crustaceus, sat tenuis aut modice incrassatus, continuus aut rimosus, verrucis instructus 0.1—0.2 mm latis, basi haud constrictis, crebre dispersis, hemisphaericis, sordide albidus aut cinerascens, opacus, intus albus, KHO extus et intus intense lutescens, verrucis intus albis et KHO lutescentibus, sorediis destitutus, hypothallo inconspicuo aut partim nigricante, crebre contexto, limitatus. Apothecia 1.2—0.6 mm lata, sat tenuia, late adnata, basi constricta, subtus haud verrucosa, disco plano aut demum leviter convexo, fusco aut fusco-nigricante, nudo, opaco, margine albido, sat tenui, integro (aut raro fortuitoque crenulato), vulgo haud prominente, simplice. Perithecium albidum, impellucidum, gonidiis destitutum, ex hyphis formatum 0.004—0.006 mm crassis, sat leptodermaticis, subradiantibus aut partim sat irregulariter contextis, haud conglutinatis, materia granulosa, amorpha, albida incrustatis, KHO lutescentibus, cellulis ellipsoideis, strato corticali evanescente. Hypothecium fuscescens aut purpureo-fuscescens, KHO non reagens, in parathecium fuscescens continuatum. Hymenium 0.060—0.070 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut fuscescenti-pallidum, KHO non reagens. Paraphyses arcte cohaerentes, simplices aut parcissime ramoso-connexae, tubulis 0.001—0.0015 mm crassis, gelatinam haud abundantem e membranis formatam percurrentibus. Asci cylindrici aut subclavati. Sporae 8:nae, monostichae aut subdistichae, decolores, ellipsoideae aut fusiformi-ellipsoideae, apicibus obtusis aut subacutis aut rotundatis, simplices, membrana tenui, rectae, long. 0.010—0.013, crass. 0.003—0.007 mm. Gonidia pleurococcacea. — Apotheciis *Lecanoram chlaronam* in memoriam revocat.

Luzon, in viciniis Manilae, *Merrill 8521* pr. p. Ad corticem *Strebli* cum *L. streblicola* Vain.

Var. **guamensis** Vain.

Thallus crustaceus, sat tenuis, continuus, verrucis instructus 0.1—0.15 mm latis, basi haud constrictis, hemisphaericis, glaucescenti- aut pallido-cinereus, opacus, intus albus, extus KHO leviter sordide flavescens, verrucis intus albidis aut sulphureo-albidis, KHO leviter diluteque rufescentibus aut leviter subfulvis, sorediis destitutus, hypothallo fuscescente, crebre contexto, partim limitatus. Apothecia 1.5—0.6 mm lata, sat tenuia (circ. 0.2 mm crassa), late adnata, basi constricta, haud verrucosa aut margine rarius demum verruculoso-crenulato, disco plano aut raro leviter convexo, nigro, nudo, opaco, margine albido- aut pallido-glaucescente, sat tenui, vulgo integro, haud aut leviter prominente, simplice. Perithecium strato corticali cartilagineo, subpellucido, circ. 0.020 mm crasso, superne evanescente, ex hyphis formato irregulariter contextis, conglutinatis, membranis leviter incrassatis, cavitatibus cellularum angustis, strato medullari albido, KHO lutescente, ex hyphis formato irregulariter contextis, crebris, haud conglutinatis. Hypothecium fusconigrum, KHO non reagens. Parathecium haud evolutum. Hymenium 0.100 mm crassum, jodo persistenter caerulescens. Epithecium rufescens aut rubricosum aut partim pallidum, KHO non reagens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, membranis leviter gelatinoso-incrassatis. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.013—0.018, crass. 0.007—0.009 mm, membrana sat tenui aut crassitudine mediocri, haud gelatinosa. Gonidia pleurococcacea. — Proxime affinis est *L. leucotropoidi* Vain., quae praesertim disco fuscescente et perithecio ab ea differt. A var. *lecanoroide* Vain., Cat. Welw. Afr. Lich. (1901) 424, thallo disco-que obscurioribus et sporis majoribus recedit.

Insulae Marianae, Guam, *McGregor 612*. Ad corticem arboris.

17. **L. Bakeri** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus, verrucis instructus 0.1—0.2 mm latis, basi haud constrictis, crebre dispersis, hemisphaericis, glaucescenti-albidus, opacus, intus albus, extus et intus KHO intense lutescens, verrucis intus albidis aut raro sulphureis, KHO lutescentibus et demum fulvescentibus aut fulvo-rufescentibus, hypothallo inconspicuo. Apothecia 1—0.6 mm lata, sat tenuia aut crassitudine mediocria, basi constricta, subtus increbre verrucosa, disco plano, rufo, nudo, opaco, margine cinerascente aut obscure cinerascente, sat tenui aut crassitudine mediocri, leviter prominente, integro aut rarius parce verrucoso, simplice aut (e parathecio conspicuo) subduplice. Perithecium praesertim e parathecio fusconigro formatum, strato albido pallidove tenui aut evanescente obductum (tantum in verrucis instructum strato medullari albido, KHO lutescente) et basim versus strato corticali cartilagineo, ex hyphis formato irregulariter contextis, conglutinatis, plus minusve evoluto. Hypothecium fusconigrum, KHO non reagens, in parathecium crassum continuatum. Hymenium 0.080—0.060 mm crassum, jodo persistenter caerulescens. Epithecium rufescens, KHO non reagens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, gelatinam, e membranis formatam, haud abundantem percurrentibus. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae aut fusiformi-ellipsoideae, apicibus obtusis aut rarius rotundatis, simplices, long. 0.018—0.010, crass. 0.011—0.006 mm, membrana crassitudine mediocri aut sat tenui, saepe extus gelatinosa. Gonidia pleurococcacea, globosa, diam. 0.005—0.009 mm, tantum simplicia visa. — A *L. leucotropoide* Vain. parathecio magis evoluto et margine obscuriore differt et forsan est ejus variatio.

Luzon, Subprov. Laguna, Los Baños *Baker 539* pr. p., *544*, *546*. Ad corticem *Fici notae* et *F. hauili*. Polillo, *Bur. Sci. 6898 Robinson* (f. **Robinsonii** Vain., thallo KHO minus intense reagente, verruculis intus albis aut partim sulphureis). Ad corticem arboris.

18. **L. fuscolurida** Vain. sp. nov.

Thallus crustaceus, sat tenuis, leviter subverruculoso-inaequalis, sat continuus, olivaceo- aut fusco-cinerascens aut cinereo-glaucescens, opacus, KHO non reagens, partim hypothallo fuscescente, crebre contexto, limitatus. Apothecia 0.9—0.4 mm lata, sat tenuia (crass. 0.210 mm), numerosa, basi constricta, disco depresso-convexo aut plano, nigro, nudo, opaco, margine cinereo-fuscescente aut rarius nigricante, opaco, tenui, integro, haud prominente, persistente aut demum subexcluso. Perithecium fusconigrum, ex hyphis conglutinatis formatum, extus partim pallescens et ex hyphis formatum magis radiantibus, membranis modice incrassatis, cavitatibus cellularum ellipsoideis aut oblongis, 0.002—0.003 mm latis. Hypothecium fusconigrum. Hymenium 0.060 mm crassum, dilute pallescens aut totum decoloratum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, gelatinam, e membranis modice incrassatis formatam, percurrentibus. Asci cylindrici aut subcylindrici. Sporae 8:nae, monostichae aut subdistichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, rectae, simplices, long. 0.008—0.010, crass. 0.004—0.005 mm, membrana sat tenui, haud gelatinosa. Gonidia pleurococcacea, demum saepe glomerulosa, simplicia diam. 0.005—0.006 mm. — Affinis est *L. olivaceoluridae* Vain., praesertim margine apotheciorum pallidiore ab ea differens.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17187 Robinson.* Ad corticem arboris.

19. **L. olivaceolurida** Vain. sp. nov.

Thallus crustaceus, sat tenuis, laevigatus, continuus aut demum rimoso-diffractus, parum nitidus, olivaceo- aut glauco-cinerascens, KHO non reagens, linea fuscescente hypothallina partim limitatus. Apothecia 0.7—0.5 mm lata, sat tenuia, basi constricta, disco plano, nigricante aut rarius fusco, nudo, sat opaco, margine tenui, integro, atro, leviter nitido, primum prominente, persistente. Perithecium rubricoso-fuscescens aut fusco-nigrum, KHO non reagens, ex hyphis

conglutinatis formatum. Hypothecium rubricoso-fusconigrum, KHO non reagens. Hymenium 0.060 mm crassum, totum decoloratum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, apicem versus leviter incrassatis, gelatinam haud abundantem percurrentibus. Asci clavati aut cylindrici. Sporae 8:nae, subdistichae aut monostichae, decolores, ellipsoideae aut oblongae, apicibus obtusis, rectae, simplices, long. 0.012—0.007, crass. 0.005—0.0035 mm, membrana sat tenui, haud gelatinosa. Gonidia pleurococcacea, simplicia, diam. 0.005—0.008 mm, aut demum glomerulosa. — Proxima est *L. fuscae* (Schaer.) Th. Fr., praesertim granulis nigris deficientibus et reactione hymenii ab ea differens.

Luzon, Subprov. Rizal, *Bur. Sci. 6779 Robinson.* Ad corticem arboris.

20. **L. turbinea** Vain. sp. nov.

Thallus crustaceus, sat crassus (crass. 0.5 mm) aut tenuis, continuus aut demum diffractus, varie inaequalis et verruculosus, cinereo-glaucescens aut albidus, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia 1.5—1.2 mm lata, bene elevata, rotundate subturbinata aut fere cupuliformia, basi angusta, haud distincte stipitata, disco plano aut leviter concavo, rufo, nudo, opaco, margine sat tenui, prominente et leviter incurvo, minute crebreque crenulato, superne fuscescente, latere et inferne pallescente. Perithecium cartilagineum, dilute pallidum aut fere albidum, ex hyphis formatum radiantibus, conglutinatis, membranis incrassatis, cavitatibus cellularum oblongis, circ. 0.003 (—0.005) mm latis. Hypothecium pallidum. Hymenium 0.140 mm crassum, jodo persistenter caerulescens. Epithecium pallidum. Paraphyses arcte cohaerentes, apicibus haud incrassatis, tubulis ramoso-connexis, 0,001 mm crassis, gelatinam e membranis formatam crebre percurrentibus. Asci clavati aut irregulares, in apice membrana incrassata. Sporae 8:nae, distichae, decolores, ellipsoideae aut subglobosae, apicibus obtusis aut rotundatis, long. 0.017—0.030, crass. 0.014—0.019 mm, simplices, membrana modice incrassata, haud gelatinosa. Gonidia globosa, diam. circ. 0.005—0.010 mm, ad Pleurococcum pertinentia.

Etiam algas in *Micareis* obvenientibus subsimiles (Gloeocystis) thallus fortuito continet.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8629 McGregor.* Ad corticem arboris.

21. **L. butuana** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris aut sat tenuis, verruculoso-inaequalis, continuus aut demum diffractus, cinereo-glaucescens, opacus, hypothallo nullo distincto. Apothecia 1—0.5 mm lata, tenuia, crass. circ. 0.2 mm, solitaria, partim sat crebra, basi constricta, disco plano aut rarius leviter convexo, pallido, nudo, parum nitido, margine subconcolore, tenui, integro, haud prominente, persistente. Perithecium albidum aut extus dilute pallidum, ex hyphis formatum radiantibus, conglutinatis, membranis modice incrassatis aut sat tenuibus, cavitatibus cellularum ellipsoideis aut oblongis, 0.003—0.001 mm latis. Hypothecium parte superiore pallidum, parte inferiore albidum, KHO non reagens. Hymenium 0.040—0.045 mm crassum, totum fere decoloratum aut epithecio pallido, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, membranis tenuiter gelatinosis, tubulis 0.0015 mm crassis. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae, apicibus obtusis aut rotundatis, simplices, long. 0.008—0.010, crass. 0.0025 mm. Gonidia simplicia aut vulgo glomerulosa, integumento glomerulorum gelatinoso, decolore, 0.002—0.004 mm crasso, hyphas irregulariter intricatas continente, cellulis glomerulorum membrana distincta, sat tenui instructis, globosis, diam. 0.007—0.015 mm, cavitate 0.006—0.012 mm lata, contento flavo, forsan ad speciem aliquam Pleurococci pertinentia, a gonidiis micareinis differentia.

Mindanao, Subprov. Butuan, *Weber 1388.* Ad corticem arboris.

22. **L. canorufescens** Krempelh. Neue Beitr. Flecht. Neu-Seel. (1877) 454 Müll. Arg. Consp. Lich. Nov. Zel. (1894) 59. *L. intervertens* Nyl. Lich. Nov. Zel. (1888) 79 (in litt. ad Kn. 1867).

Var. **pallidovariegata** Vain.

Thallus crustaceus, tenuis, subverruculoso-inaequalis, continuus, cinereo-glaucescens, opacus, KHO non reagens, hypothallo nullo

distincto. Apothecia 1—0.5 mm lata, modice incrassata, solitaria, numerosa, basi constricta, adpressa, disco depresso-convexo aut rarius sat plano, pallido- et fuscescenti-variegato aut fusco, nudo, opaco, margine concolore aut pallidiore aut cinerascente, nudo, opaco, tenui, persistente, integro, haud aut parum prominente. Perithecium dilute livido-fuscescens aut albidum aut in margine fuscescens, ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum oblongis aut ellipsoideis, 0.0015—0.003 mm latis, membranis leviter incrassatis. Hypothecium albidum. Hymenium 0.060—0.065 mm crassum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices aut parce ramoso-connexae, membranis gelatinoso-incrassatis, tubulis tenuissimis, increbre septatis. Epithecium livido-fuscescens aut sordide pallidum. Asci clavati. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.012—0.016, crass. 0.005—0.008 mm. Gonidia simplicia aut raro 2-cellulosa, globosa, diam. 0.004—0.009 mm, ad Pleurococcum pertinentia. — Affinis est *L. capopensi* Vain. et *L. testaceoglaucae* Vain., at praesertim apotheciis partim obscurioribus ab iis differens.

Luzon, Subprov. Laguna, Los Baños, *Baker 536*. Ad corticem *Leeae manilensis*.

23. **L. ficicola** Vain. sp. nov.

Thallus crustaceus, tenuis, sat laevigatus aut leviter subverruculoso-rugulosus, albidus, opacus, KHO non reagens, hypothallo nullo distincto aut albo tenuique. Apothecia 1—0.25 mm lata, sat tenuia aut modice incrassata, solitaria, numerosa, basi constricta, adpressa, disco depresso-convexo aut rarius sat plano, fusco aut rufo-fuscescente, nudo, opaco, margine concolore aut rarius cinereo-fuscescente, nudo, opaco, tenui, integro, persistente, vulgo leviter prominente. Perithecium decoloratum aut in margine rufescens aut extus rufescens, ex hyphis radiantibus formatum, cavitatibus cellularum oblongis aut ellipsoideis, 0.002—0.0015 mm latis aut in basi perithecii angustissimis, membranis leviter incrassatis. Hypothe-

cium albidum aut pallidum. Hymenium 0.060—0.080 mm crassum, jodo persistenter caerulescens aut paraphysibus demum fulvescentibus. Epithecium rufescens. Paraphyses arcte cohaerentes, simplices, apicem versus crassitudine 0.003 mm rufescentesque, basin versus tenuiores, increbre septatae, gelatina hymeniali in parte inferiore hymenii parce evoluta. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.010—0.013, crass. 0.005—0.008 mm. Gonidia simplicia aut 4-cellulosa aut glomerulosa, globosa, diam. 0.007—0.004 mm, ad Pleurococcum pertinentia. — Colore thalli, apotheciis vulgo minoribus et paraphysibus a specie praecedente differt.

Luzon, Subprov. Laguna, Los Baños, *Baker 539* pr. p. Ad corticem *Fici hauili.*

24. **L. streblicola** Vain. sp. nov.

Thallus crustaceus, sat crassus aut modice incrassatus, verruculoso-rugosus, demum rimoso-diffractus, cinereo-glaucescens aut albido-cinerascens, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia 0.9—0.3 mm lata, modice incrassata, vulgo solitaria, rarius aggregato-prolifera, numerosa, basi constricta, adpressa, disco depresso-convexo aut rarius plano, livido aut cinereo-fuscescente aut livido-pallescente, opaco, nudo, margine fere concolore aut cinereo-nigricante, opaco, nudo, tenui aut tenuissimo, integro, vulgo persistente, vulgo haud prominente, subtus cinereo-pallescente. Perithecium parathecio dilute fuscescente, ceterum pallidum, ex hyphis formatum radiantibus, conglutinatis, cavitatibus cellularum ellipsoideis aut subglobosis, 0.003—0.002 mm latis, membranis sat tenuibus. Hypothecium sordide pallidum aut dilute fuscescenti-pallidum. Hymenium 0.055—0.060 mm crassum, totum decoloratum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, septatae, tubulis 0.001—0.0015 mm crassis, membranis gelatinosis, KHO turgescentibus. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut ellipsoideae, apicibus obtusis aut rotundatis, simplices, long. 0.007--0.013, crass. 0.003—0.005 mm.

Gonidia globosa, diam. 0.004—0.008 mm, tantum simplicia visa, forsan ad Pleurococcum pertinentia. — Proxime affinis est *L. canorubellae* Nyl., at thallo magis ruguloso et parathecio obscuro in superficie apothecii conspicuo ab ea differens. *L. canorufescens* v. *pallidovariegata* thallo tenuiore et colore hypothecii et perithecii a *L. streblicola* differt.

Luzon, in viciniis Manilae, *Merrill 8521* pr. p. Ad corticem *Strebli*.

25. **L. lividorufa** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, sat laevigatus, glaucescenti-cinereus, leviter nitidus, KHO non reagens, hypothallo crebre contexto, nigricante partim limitatus. Apothecia 1—0.4 mm lata, sat tenuia (crass. circ. 0.17 mm), sparsa, basi modice constricta, adpressa, disco plano, rufo aut rarius testaceo-rufescente, sat opaco, nudo, margine livido-nigricante, nudo, sat opaco, sat tenui, integro, vulgo leviter prominente, persistente. Perithecium parathecio fusco-rufescente et vulgo superficie tenuiter pallescente, basim versus pallescens, subcartilagineum, ex hyphis formatum radiantibus, conglutinatis, sat pachydermaticis, cavitatibus cellularum vulgo oblongis, saepe circ. 0.0015 mm latis. Hypothecium fulvescens. Hymenium circ. 0.065 mm crassum, jodo persistenter caerulescens aut partim demum lutescens. Paraphyses arcte cohaerentes, simplices, parce septatae, tubulis 0.001 mm crassis, gelatinam hymenialem modice evolutam percurrentibus. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae aut ovoideae, apicibus obtusis aut rotundatis, simplices, long. 0.008—0.011, crass. 0.0045—0.0055 mm. Gonidia globosa, vulgo simplicia, ad Pleurococcum pertinentia. — Affinis *L. lagunensi* Vain., at apotheciis minus variabilibus, margine constanter livido-nigricante et hypothecio fulvescente ab ea differens.

Luzon, Sorsogon, Irosin, *A. D. E. Elmer 14654* pr. p. Ad corticem arboris n. 14650.

26. **L. lagunensis** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus, laevigatus, glaucescens aut pallido-glaucescens, leviter nitidus, KHO parum reagens, hypo-

thallo crebre contexto, nigricante partim limitatus. Apothecia 1—0.4 mm lata, modice incrassata, solitaria, basi constricta, adpressa, disco plano aut depresso-convexo, testaceo-pallido aut rarius rufescente fuscescenteve, opaco, nudo, margine fere concolore aut vulgo fuscescente aut cinerascente, nudo, tenui aut tenuissimo, integro, haud prominente, persistente aut raro demum excluso. Perithecium parathecio fuscescente, ceterum decoloratum aut rarius partim albidum, subcartilagineum, ex hyphis formatum radiantibus, conglutinatis, membranis sat bene incrassatis, cavitatibus cellularum ellipsoideis aut oblongis, 0.002—0.0015 mm latis aut maxima parte angustissimis, 0.001 mm latis. Hypothecium pallido- aut fulvofuscescens. Hymenium totum decoloratum, 0.065—0.080 mm crassum, jodo caerulescens, dein obscure vinose rubens. Paraphyses arcte cohaerentes, simplices, parce septatae, tubulis 0.0015 mm crassis, gelatina hymeniali, e membranis formata, sat parce evoluta. Asci clavati. Sporae 8:nae, distichae, decolores, fusformi-ellipsoideae aut oblongae ellipsoideaeve, apicibus obtusis aut rarius rotundatis, simplices, long. 0.009—0.013, crass. 0.003—0.008 mm. Gonidia globosa, diam. 0.005—0.010 mm, simplicia et parce 2-cellulosa, ad Pleurococcum pertinentia. — Thallo laevigato et colore apotheciorum a *L. streblicola* differt.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 9720 Robinson.* Ad corticem arboris.

Subg. 3. **Eulecidea** Th. Fr.

27. **L. thallocheiloides** Vain. sp. nov.

Thallus crustaceus, sat tenuis aut crassit. mediocris, diffracto-areolatus aut sat continuus, leviter inaequalis aut sat laevigatus, albidus aut sordidescens, nec KHO, nec $CaCl_2O_2$, nec jodo reagens, opacus, intus albus, hypothallo nullo distincto. Apothecia 0.7—0.4 mm lata, sat tenuia, thallo adnata, basi haud constricta, disco plano, nigro, opaco, nudo, margine inconspicuo aut tenuissimo, nigricante, saepe fragmentis thallinis partim tenuiter obducto. Perithecium extus fuscescens, intus dilutius coloratum aut pallidum.

Hypothecium albidum. Hymenium 0.100 mm crassum, jodo dilute glaucescens. Epithecium fuscum. Paraphyses laxe cohaerentes, crass. vix 0.0015 mm, apice vulgo haud incrassatae. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae, apicibus rotundatis aut obtusis, simplices, long. 0.015—0.020, crass. 0.008—0.011 mm, membrana sat tenui, haud gelatinosa. Gonidia globosa, tantum simplicia visa.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8569. McGregor.* In rupe.

28. **L. polycarpiza** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris, sat laevigatus aut partim leviter inaequalis, sat crebre areolato-diffractus aut rimosus aut partim continuus, obscure caesio-cinereus, opacus, KHO extus lutescens, dein aurantiacus, intus lutescens deindeque rubescens, sorediis destitutus, medulla jodo non reagente, hypothallo nigricante partim limitatus. Apothecia 1—0.6 mm lata, crassitudine mediocria aut sat tenuia, late adnata, basi leviter constricta, disco plano aut raro demum depresso-convexo, caesio-pruinoso aut rarius subdenudato nigroque, opaco, margine sat tenui aut crassitudine mediocri, integro, nigro, nudo, modice prominente, persistente. Perithecium sordide purpureofuligineum, ex hyphis formatum radiantibus, sat tenuibus, conglutinatis, septatis, membranis modice incrassatis, tubulis tenuissimis, KHO solutionem rubescentem et chrystalla rubra acicularia formans. Hypothecium sordide purpureofuligineum, KHO distinctius purpureum. Hymenium 0.090—0.080 mm crassum, jodo persistenter caerulescens. Epithecium fuligineum aut olivaceofuligineum aut dilute fumoso-nigricans, KHO non reagens. Paraphyses arcte cohaerentes, tantum simplices visae, increbre septatae, tubulis tenuissimis, gelatinam haud abundantem percurrentibus. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, rectae, simplices, long. 0.015—0.021, crass. 0.008—0.011 mm, membrana sat tenui, haud gelatinosa. Gonidia ad Cystococcum pertinentia, glo-

bosa, simplicia, diam. 0.014—0.010 mm. — Facie externa subsimilis est *L. soredizae* Nyl. (Fl. 1873 p. 72, Vain. Adj. Lich. Lapp. II 53), at thallo obscuriore, haud soredioso et alio modo reagente ab ea differens, et reactione medullae KHO producta cum *L. pantherina* (Ach.) Th. Fr. congruens.

Luzon, Subprov. Benguet, Kabayan, *Merrill 4928*. In rupe cum *L. (Aspicilia) kabayana* Vain.

29. **L. aeolotera** Vain. sp. nov.

Thallus crustaceus, sat crassus aut crassitudine mediocris, areolatus, areolis contiguis, 1—0.3 mm latis, angulosis, leviter convexis aut planis, laevigatis, ochraceopallidis aut pallido-glaucescentibus (his coloribus variegatis), opacis, nec KHO, nec $CaCl_2O_2$, nec jodo reagentibus, cephalodiis (parathallis) parcis, verrucaeformibus, depresso-convexis, leviter rugosis, pallido-cinerascentibus, inter areolas thalli sparsis, sorediis destitutus, medulla alba, hypothallo indistincto. Apothecia 1.3 – 0.5 mm lata, sat tenuia, inter areolas thalli sita, late adnata, basi haud aut demum levissime constricta, superficiem thalli haud superantia aut demum leviter prominentia, disco plano, fusco aut fusco-rufescente, nudo aut tenuissime rufescenti-pruinoso, opaco, margine sat tenui aut crassitudine mediocri, integro, atro, saepe leviter nitido, nudo aut rufescenti-pruinoso in limite disci, vulgo modice prominente, persistente. Perithecium extus fuscofuligineum, intus fuscescens, KHO non reagens. Hypothecium parte subhymeniali 0.020—0.030 mm crassa albida, ceterum fuscofuligineum, KHO non reagens. Hymenium 0.180 mm crassum, jodo caerulescens. Epithecium fuscescens aut sat dilute fusco-rufescens, KHO non reagens. Paraphyses parce ramoso-connexae, tubulis 0.0015 mm crassis gelatinam e membranis formatam sat abundantem percurrentibus, apice leviter incrassatis. Asci clavati. Sporae 8:nae, distichae, decolores, ellipsoideae, apicibus rotundatis aut obtusis, rectae, simplices, long. 0.026—0.034, crass. 0.016—0.021 mm, membrana sat crassa (0.002 mm). Gonidia ad Cystococcum pertinentia, globosa, simplicia.

— Affinis est *L. panaeolae* Ach., at praesertim colore thalli ab ea differt.

Luzon, Subprov. Benguet, mons Pulog, *Merrill 6460.* In saxo.

30. **L. canlaonensis** Vain. sp. nov.

Thallus inter fibras substrati crescens, macula albida indicatus, laevigatus, gonidia hyphis affixa continens aut partim gonidiis destitutus, sorediis destitutus, hypothallo indistincto. Apothecia 0.8—0.3 mm lata, sat tenuia, late adnata, basi constricta, disco depresso-convexo aut plano, nigro, nudo, sat opaco, margine tenuissimo, integro, nigro, haud prominente, aut vulgo mox excluso. Perithecium fusconigrum, KHO non reagens, ex hyphis formatum radiantibus, conglutinatis, sat leptodermaticis, tubulis angustis. Hypothecium fusconigrum, nec KHO, nec HNO_3 reagens. Hymenium 0.050—0.040 mm crassum, jodo caerulescens. Epithecium fusconigrum, nec KHO, nec HNO_3 reagens. Paraphyses arcte cohaerentes, simplices, increbre septatae, tubulis 0.002—0.0015 mm crassis, gelatinam haud abundantem percurrentibus, apice fusco-clavatae. Asci clavati, in apice membrana leviter incrassata. Sporae 8:nae, distichae, decolores, ellipsoideae, apicibus obtusis aut rotundatis, rectae, simplices, long. 0.007—0.0035, crass. 0.003—0.002 mm, membrana tenui, haud gelatinosa. — Gonidia globosa, protococcacea. — Affinis sit *L. plebejae* Nyl., praesertim apotheciis opacis ab ea differens.

Negros, Canlaon Volcano, alt. 6000 p., *Merrill 6870.* Ad lignum putridum.

31. **L. nigroglauca** Vain. sp. nov.

Thallus crustaceus, sat tenuis aut crassitudine mediocris, sat laevigatus, crebre rimoso- et arcolato-diffractus, areolis irregularibus, angulosis, stramineo-glaucescens, opacus, KHO non reagens, hypothallo indistincto. Apothecia 0.8—0.5 mm lata, sat tenuia, late adnata, demum basi leviter constricta, disco leviter convexo aut depresso-convexo, nigro, nudo, opaco, margine cinereo-pallescente, opaco, tenui, integro, persistente aut demum fere excluso.

Perithecium pallidum, ex hyphis formatum radiantibus, sat pachydermaticis, conglutinatis, cavitatibus cellularum vulgo oblongis, circ. 0.004—0.0015 mm latis. Hypothecium fuscum aut fusconigrum, KHO purpureum. Hymenium 0.060 mm crassum, totum decoloratum aut dilute pallidum, jodo persistenter caerulescens. Paraphyses arcte cohaerentes, simplices, tubulis tenuissimis, increbre septatis, gelatinam, e membranis sat bene incrassatis formatam, percurrentibus. Asci clavati. Sporae 8:nae, distichae, decolores, oblongae aut ellipsoideae, apicibus obtusis aut rarius rotundatis, rectae, simplices, long. 0.011—0.007, crass. 0.005—0.003 mm, membrana sat tenui, haud gelatinosa. Gonidia pleurococcacea, simplicia, diam. 0.005—0.008 mm, raro bicellulosa, aut demum glomerulosa. — *L. atroviridem* (Arn.) in memoriam revocans.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17179 Robinson.* Ad corticem arboris.

32. **L. perpusilla** Vain.

Thallus crustaceus, tenuis, continuus, verruculis minutissimis crebre inspersus aut verruculoso-inaequalis, glaucescens aut cinereo-glaucescens, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia minutissima, 0.2—0.18 mm lata, adnata, disco plano aut leviter convexo, nigro, nudo, opaco, margine concolore, tenuissimo, integro, aut inconspicuo. Hypothecium sordide pallidum. Hymenium 0.040—0.030 mm crassum, jodo persistenter caerulescens. Epithecium dilute lividum. Paraphyses parce evolutae, ramoso-connexae. Asci clavati, long. 0.032, crass. 0.007—0.010 mm, apice membrana incrassata. Sporae 8:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis, simplices, long. 0.007—0.009 mm, crass. 0.002—0.003 mm. Gonidia globosa, diam. 0.010—0.006 mm, tantum simplicia visa, forsan pleurococcacea.

Polillo, *C. B. Robinson.* Ad folia perennia.

33. **L. dendrophora** Vain. sp. nov.

Thallus crustaceus, tenuis aut sat tenuis, dispersus aut partim continuus, inaequalis, albidus, KHO lutescens, nec $CaCl_2O_2$, nec jodo

reagens, isidiis cylindricis, circ. 0.5 mm altis aut brevioribus, 0.120 mm crassis, ramosis, saepe crebris, erectis instructus, sorediis destitutus, hypothallo indistincto (n. 6867) aut tenui, crebre contexto, nigricante (n. 6882). Apothecia 1—0.4 mm lata, crassitudine mediocria, basi constricta, disco convexo, atro, nudo, parum nitido, margine excluso. Perithecium albidum aut rarius passim pallidum aut dilute aeruginoso-caerulescens, ex hyphis formatum radiantibus, sat pachydermaticis, conglutinatis, tubulis tenuibus vel tenuissimis, ramoso-connexis. Hypothecium albidum aut passim dilute caerulescens. Hymenium 0.150—0.160 mm crassum, dilute caerulescens, jodo caerulescens. Epithecium cyanescescenti-fuligineum aut caeruleo-aeruginosum, KHO aeruginosum. Paraphyses arcte cohaerentes, membranis bene gelatinosis, tubulis ramoso-connexis, tenuibus. Sporae binae, decolores, ellipsoideae aut subgloboso-ellipsoideae, apicibus rotundatis, simplices, long. 0.040—0.060, crass. 0.020—0.038 mm, membrana 0.005—0.003 mm crassa. Gonidia globosa, simplicia, diam. 0.008—0.012 mm, forsan ad Cystococcum pertinentia. — Ad *Mycoblastos* pertinet.

F. **hypoleuca** Vain.

Thallus partim continuus, partim dispersus, isidiis bene evolutis, hypothallo indistincto.

Negros, vulcanus Canlaon, alt. 6000 p., *Merrill 6867*. Ad corticem *Leptospermi*.

F. **hypomelaena** Vain.

Thallus dispersus, areolis brevioribus, partim verruculaeformibus, hypothallo nigricante.

Negros, vulcanus Canlaon, alt. 6400 p., *Merrill 6882*. Ad corticem arboris.

11. **Biatorella** De Not.

1. **B. Elmeri** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris, verruculoso- et ruguloso-inaequalis, granulis sorediorum parce inspersus, partim demum subsquamuloso-diffractus, glaucescens, opacus, KHO non reagens,

hypothallo indistincto. Apothecia 1.3—0.4 mm lata, crassitudine mediocria aut sat tenuia (0.270 mm), late adnata, basi leviter constricta, disco plano aut demum depresso-convexo, ferrugineo-rufescente aut rarius ferrugineo-fuscescente, opaco, margine tenui, integro, persistente aut demum excluso, concolore aut rarius fuscescente. Perithecium violaceo-rubescens aut in superficie fere decoloratum, KHO caeruleo-violascens, ex hyphis formatum radiantibus, pachydermaticis, conglutinatis, cavitatibus cellularum oblongis, 0.001 mm latis. Hypothecium rubescens aut violaceo-rubescens, KHO caerulco-violascens. Hymenium 0.100—0.080 mm crassum, jodo persistenter caerulescens. Epithecium violaceo-rubescens vel purpureum, KHO non reagens. Paraphyses simplices, laxe cohaerentes, crass. 0.001 -0.0007 mm, apice arcte cohaerentes et interdum leviter incrassatae. Asci clavati aut ventricosi. Sporae numerosissimae, decolores, globosae, diam. 0.0025—0.003 mm, simplices. Gonidia globosa, diam. 0.004—0.008 mm, simplicia aut raro bicellulosa, ad Pleurococcum pertinentia. — Facie externa *Placodium ferrugineum* in memoriam revocans.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14877* pr. p. Ad corticem arboris (n. 14826).

Trib. 11. PILOCARPEAE

1. **Pilocarpon** Vain.

1. **P. discordans** Vain. sp. nov.

Thallus crustaceus, tenuis, laevigatus, continuus aut dispersus, glaucescens, opacus, KHO non reagens, ex hyphis crebre contextis formatus, hypothallo indistincto. Apothecia 0.3—0.2 mm lata, 0.095 mm crassa, adnata, primum subimmersa, basi haud constricta, at basim versus sensim dilatata, disco 0.2—0.1 mm lato, fere punctiformi, nigro, nudo, opaco, plano aut concavo, margine crassitudine mediocri, integro, persistente, haud prominente, basim versus sensim dilatato, substramineo-albido aut sordide albicante, opaco. Perithecium intus stramineum, extus subalbidum, ex hyphis formatum

irregulariter contextis, haud conglutinatis, in parte interiore crebrius contextis, apicibus brevibus liberis, fere piliformibus, 0.003 mm crassis. Hypothecium fusco-rubescens aut purpureum, KHO distinctius purpureum. Hymenium 0.040—0.035 mm crassum, jodo caerulescens, dein obscuratum. Epithecium olivaceum aut subdecoloratum. Paraphyses parce evolutae, simplices, increbre aut haud septatae, tubulis tenuissimis, membranis gelatinosis, modice incrassatis. Asci clavati, apicem versus membrana modice incrassata. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, rectae, 3-septatae, haud constrictae, long. 0.012—0.008, crass. 0.003 mm, membrana haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.006—0.010 mm, simplicia aut parce bicellulosa aut 4-cellulosa. — Apotheciis basi haud constrictis et basim versus sensim dilatatis a *P. leucoblepharo* (Nyl.) differt.

Polillo, *Robinson.* Supra folia arborum variarum.

2. **P. ectolechioides** Vain. sp. nov.

Thallus crustaceus, tenuissimus, maculaeformis, laevigatus, continuus, obscure olivaceo-glaucescens, opacus, KHO non reagens, ex hyphis crebre contextis formatus, hypothallo nigricante, crebre contexto, praesertim ad ambitum conspicuo, aut indistincto. Apothecia 0.35—0.8 mm lata, tenuia, ectolechioidea, subinnata, basi haud constricta, disco 0.3—0.7 mm lato, nigricante, nudo, opaco, plano aut levissime depresso-convexo, orbiculari, margine haud prominente, integro, persistente, basim versus sensim dilatato et ambitum versus attenuato, maculaeformi, angusto aut sat lato (0.1—0.3 mm lato), cinerascente aut sordide albicante, opaco, byssoideo, basi saepe byssoideo-radiante. Perithecium albidum, ex hyphis formatum 0.004—0.007 mm crassis, laxe contextis, ramoso-connexis, pachydermaticis, tubulis tenuissimis. Hypothecium rubricoso-rufescens aut violaceo-rubescens, KHO non reagens. Hymenium 0.050 mm crassum, jodo intense persistenter caerulescens. Epithecium decoloratum. Paraphyses parce evolutae, simplices, increbre septatae, membrana gelatinosa, modice incrassata, tubulo

tenui. Asci clavati, membrana tota modice incrassata, apice magis incrassata. Sporae 8:nae, distichae, decolores, fusiformes aut oblongae, apicibus obtusis aut rotundatis aut rarius acutis, rectae aut rarius curvatae, 3-septatae, demum saepe constrictae, long. 0.015—0.018, crass. 0.004—0.005 mm, membrana sat tenui, haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.005—0.010 mm (tantum simplicia visa), Scytonematibus immixta parcis, filiformibus, vermicularibus, 0.015—0.017 mm crassis, e seriebus cellularum simplicibus formatis, partim hyphis obductis. — Apotheciis tenuioribus, basi haud constrictis a *P. leucoblepharo* (Nyl.) facile distinguitur.

Luzon, Subprov. Tayabas, mons Binuang, *Robinson*. Supra folia perennia arborum.

3. **P. cinereonigricans** Vain. sp. nov.

Thallus crustaceus, tenuissimus aut evanescens, macula cinereo-nigricante indicatus, continuus, laevigatus, opacus, KHO non reagens, gonidiis pleurococcaceis instructus, saepe maxima parte hypothallinus. Apothecia maculas 0.8—0.3 mm latas formantia, tenuia, ectolechioidea, basi haud constricta, disco 0.3—0.2 mm lato, nigricante aut fusco-nigricante, nudo, opaco, plano, orbiculari, margine haud prominente, integro, persistente, ambitum versus sensim attenuato, maculaeformi, sat lato aut rarius angusto (0.4—0.1 mm lato), cinerascente, opaco, byssoideo, basi interdum byssoideo-radiante. Perithecium albidum, ex hyphis formatum 0.002—0.003 mm crassis, laxe contextis, ramoso-connexis, sat pachydermaticis. Hypothecium livido-fuscescens aut sordide subviolascens aut partim aeruginosum, KHO non reagens. Hymenium 0.020—0.030 mm crassum, jodo intense persistenter caerulescens. Epithecium pallidum. Paraphyses parce evolutae, simplices, increbre septatae, membrana gelatinosa, modice incrassata, tubulo tenui. Asci clavati, in apice membrana modice incrassata. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, rectae, 3-septatae, haud constrictae, long. 0.007—0.011, crass. 0.002

—0.003 mm, membrana sat tenui, haud gelatinosa. Pycnoconidangia hemisphaerica, lat. 0.090 mm, nigra, conceptaculo (sub microscopio) cinereoaeruginoso, KHO obscurius colorato. Pycnoconidia pyriformia aut lageniformia, recta, medio vulgo levissime constricta, apice crassiore rotundato, apice tenuiore rotundato aut obtuso, long. 0.0035—0.004 (raro 0.005), crass. 0.001 mm, numerosissima, basidiis et sterigmatibus inconspicuis. Gonidia parce evoluta aut numerosa, simplicia aut glomerulosa aut 4-cellulosa, cellulis diam. 0.004—0.008 mm. — Affine est *P. ectolechioidi*, thallo obscuro evanescenteque et sporis minoribus ab ea differens.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson*, et Guinayangan, *Bur. Sci. 20918* pr. p. *L. Escritor*. Polillo, *Robinson*. Ad folia perennia arborum.

4. **P. subnebulosum** Vain. sp. nov.

Thallus crustaceus, tenuis aut tenuissimus, varie dispersus aut laceratus, laevigatus, albido-glaucescens, opacus, KHO non reagens, ex hyphis crebre contextis formatus, hypothallo indistincto. Apothecia 0.5—0.3 mm lata (cum margine), tenuia, subinnata, basi haud constricta, orbicularia, disco 0.2—0.1 mm lato, punctiformi, nigro, nudo, opaco, plano, margine haud prominente, integro, persistente, maculaeformi, byssoideo, basim versus sensim dilatato et ambitum versus attenuato, comparate sat lato aut angusto, albido, opaco. Perithecium albidum, ex hyphis formatum laxe et irregulariter contextis, increbre ramoso-connexis, 0.0015—0.002 mm crasis, membranis modice incrassatis. Hypothecium violaceo- aut rarius livido-fuscescens, KHO distinctius violascens. Hymenium 0.030 mm crassum, jodo persistenter caerulescens. Epithecium pallidum. Paraphyses parce evolutae, simplices, sat increbre septatae, membrana gelatinosa, modice incrassata, tubulo tenui. Asci clavati, praesertim apicem versus membrana incrassata. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, rectae, 3-septatae, long. 0.011—0.012 mm, crass. 0.003 mm, membrana sat tenui, haud gelatinosa. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.005—0.007 mm, simplicia aut bicellulosa aut 4-cellulosa.

Polillo, *Robinson*. Supra folia perennia et annua arborum.

5. **P. leucoblepharum** (Nyl.) Vain. Étud. Lich. Brés. II p. 89.

Conidia decolora, ovoideo-oblonga aut suboblonga, recta, long. 0.003, crass. 0.001 mm. Sporae oblongae aut ovoideo-oblongae au fusiformi-oblongae, apicibus obtusis, 3-septatae, long. 0.011—0.012, crass. 0.003 mm. Gonidia globosa, diam. 0.009—0.005 mm, tantum simplicia visa. Hypothecium violascenti-cyanescens. Parathecium fuscescens, tenue, crass. 0.010 mm.

Insulae Batanes, Sabtan, *Bur. Sci. 10192 McGregor.* Supra folia coriacea *Diospyri discoloris.*

Trib. 12. CHRYSOTHRICEAE

1. Crocynia (Ach.) Nyl.

1. **Cr. Féei** Vain. sp. nov.

Thallus crustam formans verrucosam et verruculosam et simul partim praesertimque ambitum versus squamosam, sat crassus, rugosus, mollis fragilisque, haud lanuginosus, impure albidus (at haud distincte stramineus), opacus, KHO non reagens, intus et subtus albus, ex hyphis formatus laxe contextis, 0.003—0.006 mm crassis, sat pachydermaticis, dichotome ramosis, increbre septatis, granulis crebre obductis amorphis (in ClH tantum partim dissolutis), strato corticali destitutus, in parte superiore glomerulos gonidiorum increbre continens, hypothallo nullo distincto. Apothecia 0.4—1.2 mm lata, sat tenuia, basi leviter constricta, thallo late adnata, orbicularia aut leviter angulosa, solitaria aut parce aggregata, disco plano, nigro, nudo, opaco, laevigato, margine sat tenui, integro, vulgo leviter prominente, persistente, cinerascente, opaco. Perithecium pallidum aut partim rufescenti-pallidum, KHO dilute pallido-rubescens, cartilagineum, gonidiis destitutum, ex hyphis formatum crassis, radiantibus, conglutinatis, pachydermaticis, crebre septatis, cavitate cellularum transversim 0.0015—0.0007 mm lata. Hypothecium fuscum aut fulvo- vel pallido-rufescens, KHO leviter rubescens, in parte superiore ex hyphis erectis formatum. Hymenium jodo persistenter caerulescens, 0.060—0.090 mm crassum, to-

tum dilute pallidum aut epithecio fulvescenti-pallido, KHO partim rufescenti-rubescens. Paraphyses simplices, arcte cohaerentes, increbre septatae, membranis incrassatis gelatinosisque, tubulis tenuissimis. Asci clavati, in apice membrana incrassata. Sporae 8:nae, distichae, oblongae aut fusiformi- vel ellipsoideo-oblongae, apicibus obtusis aut rotundatis, rectae, simplices, decolores, long. 0.008—0.012, crass. 0.0025—0.004 mm. Gonidia ad aliquam speciem rariorem Pleurococci pertinentia, globosa, diam. 0.008—0.006 mm, vulgo glomerulosa, membrana bene incrassata, contento glaucescente. — Huc pertinet *Lecidea molliuscula* Fée (ined.) secundum specimen orig. n. 22050 in herb. Nyl., in Mauritio lectum, disco apotheciorum nigro et hypothecio fusco, KHO rubescente, instructum. *Byssocaulon molliusculum* Nyl., Lich. Exot. 259, Enum. Gén. Lich. 119 (*Crocynia* Huc Lich. Gen. Croc. 236), disco rufescente, margine mox excluso et hypothecio haud obscurato a *Cr. Féei* differt et in Borbonia collectum est.

Luzon, Subprov. Benguet, Pauai, *Copeland 1379*. Mindanao, Subprov. Butuan, 320 m s. m., *Weber 1392* pr. p. Ad truncos arborum. Fert.

Var. **epiphaea** Vain.

Disco fusco rufescenteve et margine albido-cinerascente a *Cr. Feei* Vain. differt, at forsan non est autonoma species. Thallo ei omnino similis, KHO non reagens. Hymenium circ. 0.055 mm crassum, jodo caerulescens. Epithecium decoloratum. Sporae oblongae, apicibus rotundatis, simplices, long. 0.007—0.009, crass. 0.0015—0.0025 mm. Gonidia simplicia, diam. 0.006—0.009 mm, pr. p. etiam glomerulosa, membrana modice incrassata. Hypothecium purpureum. Perithecium albidum (in lamina tenui).

Luzon, Subprov. Rizal, Antipolo, *Bur. Sci. 29550 M. Ramos* et *G. Edaño*: Ad corticem arboris.

2. **Cr. biformis** Vain. sp. nov.

Thallus medium versus crustaceus et subcontinuus, ambitu et ambitum versus effiguratus, laciniis 0.3—1.5 mm latis, irregulariter

laceratis, vulgo contiguis, applanatis, adnatus, haud verruculosus, mollis, haud lanuginosus, albidus aut demum partim dilute rubescens, opacus, KHO non reagens, intus et subtus albus, ex hyphis formatus laxe contextis, 0.005 (0.004—0.006) mm crassis (circa gonidia 0.002 mm crassis), sat pachydermaticis, dichotome ramosis, connexis, increbre septatis, granulis crebre obductis amorphis (in KHO parum dissolutis), cavitate cellularum sat angusta, strato corticali destitutus, in parte superiore glomerulos gonidiorum sat increbre continens, hypothallo nullo distincto. Apothecia 0.8—0.5 mm lata, sat tenuia, basi sat bene constricta, orbicularia aut leviter flexuosa, solitaria aut parce aggregata, saepe demum cupuliformia, disco concavo aut primum plano, nigro, nudo, opaco, laevigato, margine sat tenui, integro, prominente, persistente, pallido-cinerascente, opaco. Perithecium fusco-rufescens, subtus fulvo-pallescens, ex hyphis formatum radiantibus, conglutinatis, pachydermaticis, crebre septatis, cavitate cellularum angusta. Hypothecium in parte superiore ex hyphis erectis formata fulvescens, ceterum fuscescens aut fulvo-rufescens et KHO vinose rubescens. Hymenium circ. 0.040 mm crassum, jodo persistenter caerulescens. Epithecium partim intense pallidum, KHO non reagens. Paraphyses simplices, arcte cohaerentes, increbre septatae, membranis incrassatis, tubulis tenuibus. Asci clavati, in apice membrana incrassata. Sporae 8:nae, distichae, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundatis, rectae, simplices, decolores, long. 0.006—0.011, crass. 0.0025 0.0045 mm, membrana tenui. Gonidia globosa, diam. 0.006—0.008 mm, demum saepe glomerulosa, membrana tenui, ad Pleurococcum pertinentia. — *C. gossypina* (Sw.) Ach. (*C. mollescens* Nyl. Lich. Jap. 59) huic speciei proxime est affinis, reactione thalli et apotheciis ab ea differens.

Polillo, *Bur. Sci. 9105, 9109 Robinson.* Ad truncos arborum.

Trib. 13. GYALECTEAE Mass.

1. Gyalecta (Ach.) Vain.

1. **G. roseoalbida** Vain. sp. nov.

Thallus erustaceus, tenuis aut sat tenuis, continuus aut demum rimulosus, laevigatus, albidus aut sordide albicans, parum nitidus, KHO non reagens, hypothallo indistincto. Apothecia 1—0.3 mm lata, sat tenuia (0.25 mm crassa), basi constricta, adpressa, disco vulgo plano, roseo, nudo, sat opaco, margine sat tenui, roseo aut albido-roseo, integro, haud prominente aut primum leviter prominente, persistente, parum nitido. Perithecium albidum, plectenparenchymaticum, cavitatibus cellularum 0.004—0.006 mm latis, membranis tenuibus, tantum in basi apothecii gonidia parce continens aut verruculis thallinis minutissimis passim parce obductum. Hypothecium fulvescenti-pallidum. Hymenium 0.050—0.060 mm crassum, totum decoloratum, jodo dilutissime glaucescens, dein mox violascenti-vinose rubens. Paraphyses simplices, sat laxe cohaerentes, tenues, apice clavato, 0.003—0.002 mm crasso. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae aut distichae, decolores, fusiformes aut fusiformi-oblongae, apicibus obtusis, rectae, 1-septatae, long. 0.009—0.013, crass. 0.002—0.003 mm. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis, constrictis, 0.006—0.010 mm crassis, 0.006—0.018 mm longis, membrana sat tenui. Proxime affinis *G. luteae* (Dicks.), colore apotheciorum et thalli ab ea differens, et forsan ejus variatio.

Luzon, in viciniis Manilae, *Merrill 8524*. Ad corticem *Strebli asperi*.

2. **G. lutea** (Dicks.) Tuck. Lich. Hawai (1867) p. 227; Vain., Étud. Lich. Brés. II p. 71.

Biliran, *Bur. Sci. 18425 McGregor*. Ad corticem arboris.

3. **G. diluta** (Pers.) Vain., Adj. Lich. Lapp. II p. 4. *Biatorina* Th. Fr. Lich. Arct. p. 185. *Lecidea pineti* Ach., Nyl. Lich. Scand. p. 191.

Luzon, Subprov. Laguna, *For. Bur. 13753* pr. p. *Rosenbluth* et *Tamesis*.

4. **G. epihylla** (Müll. Arg.) Vain., *Biatorinopsis* Müll. Arg. Lich. Beitr. (Fl. 1881) n. 258.

Thallus crustaceus, tenuissimus, continuus, laevigatus, glaucescens, opacus, KHO non reagens, hypothallo indistincto. Apothecia 0.35—0.2 mm lata, tenuia, adpressa, basi constricta, disco plano, pallido aut testaceopallido, nudo, opaco, margine concolore aut pallidiore, tenui, integro, haud prominente, persistente, opaco. Perithecium albidum, parenchymaticum, cavitatibus cellularum subglobosis, circ. 0.2—0.4 mm latis, membranis sat crassis, gonidiis destitutum. Hypothecium subalbidum aut dilute pallidum. Hymenium 0.045 mm crassum, jodo non reagens aut passim parce dilute roseum. Paraphyses simplices, sat laxe cohaerentes, increbre septatae, crass. 0.0007 mm, apice clavato, 0.003—0.002 mm crasso, membranis tenuibus. Epithecium pallidum. Asci cylindrici aut clavati, membrana tenui. Sporae 8:nae, monostichae aut subdistichae, fusiformi- aut ellipsoideo-oblongae, apicibus obtusis, rectae, 1-septatae, decolores, long. 0.009—0.012, crass. 0.003—0.0035 mm, membrana tenui. Pycnides 0.012—0.015 mm latae, conceptaculo tenui, albido, ostiolo demum lato. Stylosporae numerosissimae, oblongo-elongatae aut alterum apicem versus leviter incrassatae, apicibus obtusis, rectae, 1-septatae aut partim simplices, long. 0.009—0.015, crass. 0.0015—0.0025 mm. Gonidia ad *Heterothallum confertum* Vain. pertinentia, cellulis concatenatis, ellipsoideis, 0.006—0.009 mm crassis, membranis sat tenuibus, fila constricte articulata, ramosa formantia. In thallo parce etiam obvenit *Phycopeltis tropica* (Moebius) Hansg., thallo instructa membranaceo, demum haud profunde parceque rotundato-lobato, seriebus cellularum radiantibus. — Hic notetur *Biatorina sublutea* Rehm (Asc. Philipp. III 404), apotheciis urceolatis descripta (Luzon, Los Baños, *Raimundo*).

Insulae Batanes, Batan, *Bur. Sci. 10207 McGregor.* Ad paginam inferam folii palmae. Luzon, Subprov. Laguna, Los Baños, *Bur. Sci. 9918 Robinson.* Ad paginam superiorem folii *Eugeniae.* Mindoro, Bulalacao, *Bur. Sci. 6698 Robinson.* Ad paginam superiorem folii coriacei arboris.

5. **G. epiphylloides** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus aut sat continuus, laevigatus, glaucescens, leviter aut parum nitidus, KHO non rea-

gens, hypothallo indistincto. Apothecia 0.5—0.2 mm lata, tenuia (crass. 0.18 mm), adpressa, basi constricta, disco plano, pallido, nudo, opaco, margine concolore aut pallidiore, tenui, integro, haud prominente, persistente, haud aut parum nitido. Perithecium albidum aut extus pallidum, circ. 0.060—0.070 mm crassum, parenchymaticum, cavitatibus cellularum subglobosis aut ellipsoideis, 0.008—0.003 mm latis, membranis tenuibus aut in parte interiore sat crassis, in basi apothecii gonidia parce continens. Hypothecium subalbidum aut dilutissime pallidum, ex hyphis tenuibus, irregulariter contextis, formatum. Hymenium 0.055 mm crassum, jodo non reagens (fulvescens). Paraphyses simplices, vulgo laxe cohaerentes, increbre septatae, crass. 0.001 mm, apice clavato, 0.003 mm crasso, membranis tenuibus. Epithecium dilute pallidum. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae aut subdistichae, fusiformi-oblongae aut fusiformes, apicibus obtusis, rectae, 1-septatae, decolores, long. 0.007—0.011, crass. 0.002—0.003 mm, membrana tenui. Gonidia ad *Heterothallum chlathratum* Vain. pertinentia, cellulis 0.010—0.017 mm longis, 0.003—0.010 mm latis, concatenatis, fila ramoso-connexa formantibus, membranis latere haud connatis. His gonidiis immixta in thallo lichenis saepe observatur etiam *Phycopeltis tropica* (Moebius) Hansg., thallo membranaceo, pyriformi aut primumum reniformi, margine integro instructa. — A *G. epiphylla* (Müll. Arg.) sporis angustioribus et gonidiis differt.

Polillo, *Robinson.* Supra folia perennia arborum. Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14553.* Ad folium annuum plantae n. 14552.

6. **G. marginalis** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus, laevigatus, cinereo-glaucescens, opacus, gonidiis abundanter instructus, in lamina superiore folii crescens (in laminam inferiorem folii anguste expansus et tam gonidiis parcissimis instructus, sordide albicans), hypothallo indistincto. Apothecia 0.6—0.3 mm lata, sat tenuia, in parte inferiore marginis folii aut verticaliter in ipso margine folii sita, adpressa, basi constricta, disco plano subfulvescenti-pallido, nudo,

opaco, margine fere concolore aut albido, tenui, integro, saepe parce minutissimeque verruculoso, haud aut parum prominente, persistente, opaco. Perithecium albidum aut extus pallidum, parenchymaticum, cavitatibus cellularum subglobosis, 0.003—0.002 mm latis, membranis tenuibus. Hypothecium albidum. Hymenium circ. 0.045 mm crassum, jodo levissime glaucescens, demum fulvescens. Epithecium decoloratum. Asci cylindrici. Paraphyses simplices, sat laxe cohaerentes, crass. 0.001 mm, apice capitato-clavato, 0.003—0.002 mm crasso. Sporae 8:nae, submonostichae, oblongo-fusiformes, apicibus obtusis, rectae, 1-septatae (spurie 3-septatae), decolores, long. 0.007—0.009, crass. 0.002 mm, membrana tenui. Gonidia ad *Heterothallum epiphyllum* Vain. pertinentia, cellulis oblongis, ellipsoideis et subglobosis, long. 0.032—0.006, crass. 0.008—0.003 mm, in fila ramosa, haud connexa concatenatis. In thallo etiam *Phycopeltis tropica* (Moebius) parce obvenit. — Habitu subsimilis est *G. luteae* et *G. epiphylloidi*. — Cum hac specie collecta est in margine folii et parce in latere inferiore folii crescens *Helotiopsis marginalis* Vain., apotheciis instructa solitariis aut parce aggregatis, 0.9—0.5 mm altis, stipitatis, bacomycoideis, disco 0.9—0.5 mm lato, plano aut depresso-convexo, fusco aut rufescente, nudo, opaco, margine tenui, integro, albido aut pallescente, haud prominente, saepe demum excluso, stipite 0.8—0.4 mm longo, 0.5—0.25 mm crasso, cylindrico aut apicem versus leviter incrassato et in excipulum saepe sat abrupte dilatato, albido-pallescente aut sordide albido, solido, intus pallido-fuscescente, cartilagineo, sporis haud evolutis, mycelio sordide albido, gonidiis destituto, ad fungos pertinens.

Polillo, *Robinson*. In folio arboris.

7. **G. lacerata** Vain. sp. nov.

Thallus crustaceus, tenuissimus, macula cinereo-glaucescente indicatus, subcontinuus aut varie laceratus, ambitu radiato-laceratus, laevigatus, parum nitidus, KHO non reagens, hypothallo indistincto. Apothecia 0.35—0.25 mm lata, tenuia, adpressa, basi constricta, disco plano, pallido aut sordide albicante, nudo, sat opaco,

margine fere concolore, tenui, integro, haud aut parum prominente, persistente, sat opaco. Perithecium albidum aut extus pallidum, parenchymaticum, cavitatibus cellularum ellipsoideis aut oblongis, 0.005—0.001 mm latis, membranis sat crassis, gonidiis destitutum. Hypothecium dilute pallidum aut albidum. Hymenium 0.045 mm crassum, jodo non reagens (fulvescens) aut primum dilutissime roseum. Epithecium albidum. Paraphyses simplices, sat laxe cohaerentes, increbre septatae, crass. 0.0007 mm, apice 0.0015—0.003 mm crasso. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae aut distichae, fusiformi-oblongae aut oblongo-ellipsoideae, apicibus sat obtusis aut rotundatis, rectae, decolores, 1-septatae, long. 0.0075—0.010, crass. 0.003 mm, membrana tenui. Gonidia ad *Heterothallum epiphyllum* Vain. pertinentia, cellulis concatenatis, oblongis et partim ellipsoideis subglobosisve, long. 0.006—0.030, crass. 0.005—0.008 mm, membranis sat tenuibus, fila formantibus ramosa, haud connexa, leviter aut partim bene constricta. — A *G. epiphylla* thallo ambitu lacerato et gonidiis ad aliam speciem Trentepohliae pertinentibus differt. Magis affinis est *G. epiphylloidi*, quae apotheciis partim majoribus et gonidiis ramoso-connexis ab ea discernitur.

Insulae Batanes, Batan, *Bur. Sci. 10206 McGregor.* Luzon, Subprov. Albay, Basag, *Bur. Sci. 6441, 6446 Robinson*; Subprov. Camarines, Adiagnao, *Bur. Sci. 6395 Robinson.* Polillo, *Bur. Sci. 10804 McGregor.* Supra folia annua et perennia arborum, velut *Epipremnopsidis septochili* cet.

8. **G. semecarpi** Vain. sp. nov.

Thallus crustaceus, tenuissimus, macula cinereo-glaucescente indicatus, continuus, ambitu subinteger aut leviter laceratus, laevigatus, opacus, KHO non reagens, hypothallo indistincto. Apothecia 0.26—0.28 mm lata, modice incrassata, adpressa, basi constricta, disco plano, rufescente aut testaceo-rufescente, nudo, opaco, margine fere concolore aut cinereo-rufescente, tenui, integro, haud aut parum prominente, persistente, opaco, laevigato. Perithecium (in lamina tenui) margine pallido aut sordice albicante, gonidiis destitutum. Hypothecium rufescenti-pallidum aut intense pallidum, KHO

fulvo-rubescens. Hymenium jodo lutescens. Epithecium decoloratum. Paraphyses sat parcae, simplices, sat crebre septatae, tenuissimae (0.0005 mm). Asci subcylindrici aut fusiformi-cylindrici, long. 0.064—0.072 mm, membrana tenui. Sporae 8:nae, distichae, fusiformi-oblongae, apicibus obtusis aut altero apice sat acuto, rectae, decolores, 3-septatae, long. 0.018—0.025, crass. 0.005 mm. Gonidia ad *Heterothallum laceratum* Vain. pertinentia, thallo membranaceo, ambitum versus lacerato, cellulis 0.008 mm longis, 0.003 mm latis, in series radiantes connatis, in ambitu thalli latere discretis.

Luzon, Subprov. Laguna, Los Baños, *Robinson* (cum n. *17347*). Ad folia *Semecarpi cuneiformis*. — Hic notentur: *Linhartia luzonica* Rehm (Elmer, Leafl. Philipp. Bot., 1914, p. 2236) et *L. philippinensis* Rehm (l. c.), teste Rehm ad lichenes pertinentes, item ad Los Baños collectae.

2. **Semigyalecta** Vain. gen. nov.

Thallus hyphis partim dilute fuscescentibus, partim decoloratis, increbre contextus, algam continens thallo membranaceo instructam, ad *Phycopeltidem* pertinentem. Apothecia lecideina. Sporae aciculares aut bacillares, septatae, decolores.

1. **S. paradoxa** Vain. sp. nov.

Thallus crustaceus, tenuissimus, continuus aut raro plus minusve laceratus, sat opacus, macula olivaceo- aut cinereo-fuscescente indicatus, interdum sat facile desquamescens, hyphis 0.003—0.0015 mm crassis, leptodermaticis, dilute fuscescentibus aut partim decoloribus, increbre contextis. Apothecia 0.25—0.3 mm lata, tenuia, basi leviter constricta aut primum haud constricta, late adnata, disco nigro aut rarius fusco-nigricante, nudo, opaco, plano, orbiculari, margine tenui, integro, haud prominente, persistente, albido aut sordide albicante aut pallido, glabro. Perithecium albidum, ex hyphis formatum radiantibus, circ. 0.005 mm crassis, conglutinatis, parenchymaticis, cavitatibus cellularum 0.003—0.0015 mm latis, oblongis aut rotundatis, membrana modice aut sat bene incrassata. Hypothecium fuscescens, inferne aut in medio apothecii aeruginoso-cyanescens, KHO non reagens. Hymenium 0.045 mm crassum,

jodo persistenter caerulescens. Epithecium pallidum, KHO non reagens. Paraphyses arcte cohaerentes, simplices, membrana gelatinoso-incrassata, tubulo tenui. Asci clavati, apicem versus membrana incrassata. Sporae 8:nae, polystichae, decolores, aciculares aut fusiformi-aciculares aut bacillares, apicibus acutis aut obtusis, rectae, 3-septatae, long. 0.014—0.023, crass. 0.0015—0.002 mm. Infra thallum abundanter aut parce obvenit alga *Phycopeltis tropica* (Moeb.) Hansg., thallo instructa membranacco aut squamaeformi et saepe pyriformi, e strato simplice cellularum formato, flavo-virescente, margine integro. — Inter *Gyalectas* et fungos est intermedia, potius ad lichenes pertinens. Subgenera „*Lecideae*" Nyl., affinitatem cum speciebus gonidiis destitutis ostendentia, in systemate naturali lichenes et fungos complectente ut genera autonoma in vicinitate fungorum iis affinium disponenda sunt, quia lichenes polyphyletice e fungis evoluti sunt.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson*. Polillo, *Robinson*. Supra folia *Pothi*.

Obs. Diplothrix mirabilis Vain. (gen. et sp. nov.), *Gyalecteis* proxima, at gonidiis veris destituta, ad *Pezizeas* pertinet. In symbiosi sive parasitismo mutuo, qui nominetur *mycosymbiosis*, cum alio fungo, hyphis fusco-nigris instructo, viget. Mycelium ipsius *Diplothricis* in foliis coriaceis arboris tropicae plagas maculasve rotundatas, circ. 5—2 mm latas aut demum partim confluentes, sat laxe contextas, tenues, cinereas, opacas formans, ex hyphis constans vix 0.002 mm crassis, decoloribus, increbre septatis, leptodermaticis, alium fungum, *Gonidiomycetem sociabilem* Vain., continens obtegensque. Apothecia *Diplothricis* saepe sat crebra, lecideina, orbicularia, mycelio adnata, 0.4—0.25 mm lata, crass. 0.2—0.16 mm, immarginata, basi leviter constricta, disco nigro aut rarius fusco-nigricante (madefacto fuscescente), nudo, opaco, convexo aut primum haud diu plano. Perithecium basale, plectenparenchymaticum, pallidum, cavitatibus cellularum anguloso-subglobosis et diam. 0.004—0.008 mm, aut irregulariter compressis, membranis tenuibus. Hypothecium pallidum aut decoloratum, e cellulis minutis, depressis, subpachydermaticis formatum. Hymenium, circ. 0.070—0.080 mm crassum, jodo non reagens. Epithecium pallidum aut testaceum. Paraphyses arcte cohaerentes, simplices, increbre septatae, tubulis vix 0.001 mm crassis, membranis leviter pachydermaticis gelatinosisque. Asci clavati, long. circ. 0.040, crass. 0.012—0.014 mm, in apice membrana leviter

incrassata. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, apicibus obtusis aut altero apice rotundato et altero angustato vel sat acuto, rectae aut vulgo obliquae aut leviter curvatae, 1—2-septatae, long. 0.013—0.020, crass. 0.004—0.008 mm. **Gonidiomyces sociabilis** Vain. ex hyphis constans dichotome ramosis, transversim septatis, cellulis long. 0.022—0.024, crass. 0.008—0.012 mm, chlorophyllo destitutis, membranis intense fuscis, sat impellucidis, 0.002—0.0015 mm crassis, ramis brevibus subclavatis numerosis, 0.022—0.040 mm longis, primum ex una cellula formatis, demum 2-cellulosis, cellula basali vel stipite long. 0.007—0.008, crass. 0.006—0.012 mm, sublaevigata aut parce minute gibbosa, cellula apicali long. 0.022, crass. 0.017—0.022 mm, ellipsoideo-difformi, membrana intense fusca, gibboso-rugulosa, gibbis numero saepe circ. 10, late conoideis obtusisque aut verrucaeformibus, alt. 0.003—0.004, basi lat. 0.003—0.010 mm. Apothecia haud bene evoluta, perithecio rotundato, diam. circ. 0.070 mm, nigricante, parenchymatico, applanato, basin versus hyphas numerosas fusco-nigricantes emittente, nucleo haud evoluto.

Luzon, Subprov. Ilocos Norte, Bangui, *Bur. Sci. 27779 M. Ramos.* Supra et infra folia *Celtis. Gonidiomyces* (sine *Diplothrice)* collectus etiam prope Nha-trang in Annam (*C. B. Robinson 1370* pr. p.).

Trib. 13. COENOGONIEAE

1. **Coenogonium** Ehrenb.

Subg. 1. **Coenobiatorina** Vain.

Sporae uniseptatae.

1. **C. tenuissimum** Krempelh. Lich. Foliic. 6, Lich. Beccar. Born. 26; Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1529.

Thallus cirros formans circ. 3—15 mm longos et 0.3—7 mm latos, basi vulgo angustos, apice angustatos et saepe fere filiformes, rarius spissos, horizontaliter margini folii arboris affixos, flavescens. Apothecia in parte inferiore aut rarius etiam in parte superiore thalli horizontaliter dispositi sita, 0.4—0.2 mm lata, disco plano, pallido aut albido-pallescente, nudo, sat opaco, margine albido-pallescente aut albido, tenui, integro, haud prominente, persistente. Perithecium albidum, parenchymaticum, cavitatibus cellularum anguloso-rotundatis, 0.008—0.003 mm latis, membranis sat tenuibus. Hypothecium albidum. Hymenium 0.045—0.050 mm

crassum, jodo persistenter caerulescens. Paraphyses laxe cohaerentes, crass. 0.001 mm, apice vulgo obovoideo- aut globoso-capitato, 0.003—0.004 mm crasso. Asci anguste cylindrico-fusiformes, membrana tenui. Sporae 8:nae, distichae, decolores, anguste fusiformes, apicibus acutis, rectae, uniseptatae (in H_2SO_4 visae), guttulas oleosas continentes (quare in aqua pluriseptatae apparent), long. 0.010—0.012, crass. 0.0015—0.002 mm. Gonidia ad Trentepohliam pertinentia, cellulis 0.013—0.022 mm crassis, 0.050—0.070 mm longis.

Polillo, *Bur. Sci. 6884 Robinson*, *Bur. Sci. 10797* pr. p. *McGregor*. Luzon, Subprov. Tayabas, via Siniloan, *Robinson*; Subprov. Sorsogon, Irosin, *Elmer 14827* (in foliis arboris n. 14826). In foliis arborum. Interdum fert.

2. **C. interplexum** Nyl. Obs. Coenog. 92, Lich. Nov. Zel. 77; Vain. Addit. Lich. Antill. 131.

Thallus pannose expansus, adnatus, laxissime contextus, stratum crassum formans. Apothecia circ. 0.8—0.6 mm lata. Hymenium circ. 0.070—0.075 mm crassum, jodo sat dilute caerulescens deindeque dilute sordideque violascens. Sporae fusiformi-oblongae, apicibus obtusis, uniseptatae, monostichae, long. 0.007—0.010, crass. 0.0025—0.003 mm. Gonidia cellulis 0.012—0.016 mm crassis, 0.020—0.024 mm longis.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 6568 Robinson*. Ad truncum arboris. Fert.

3. **C. epiphyllum** Vain. sp. nov.

Thallus crustam tenuem formans, adnatus, sat crebre contextus, cinereo-flavescens, e filis brevibus tenuibusque constans. Apothecia minuta, circ. 0.2 mm lata, disco concavo, albido-pallescente, nudo, sat opaco, margine stramineo-albido, tenuissimo, integro, prominente, persistente. Perithecium albidum, parenchymaticum, cavitatibus cellularum subglobosis, diam. 0.005—0.003 mm, membranis sat tenuibus. Hypothecium albidum. Hymenium 0.060—0.065 mm crassum, jodo dilute caerulescens, dein dilutissime sordide violascens. Paraphyses laxe cohaerentes, septis parcis, 0.001 mm crassae, apice

capitato-clavatae, clava 0.0025—0.003 mm crassa. Asci cylindrici, membrana tenui. Sporae 8:nae, distichae aut monostichae, decolores, fusiformes aut fusiformi-ellipsoideae, apicibus sat obtusis, rectae, uniseptatae, long. 0.006—0.008, crass. 0.0025—0.003 mm. Gonidia ad Trentepohliam pertinentia, cellulis 0.006—0.008 mm crassis, 0.008—0.014 mm longis.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson.* Supra folium coriaceum arboris (parce lectum, duobus apotheciis).

Subg. 2. **Coenobiatora** Vain.

Sporae simplices.

4. **C. Leprieurii** (Mont.) Nyl. Vain. Étud. Lich. Brés. II 65.

Var. **lamellifera** Vain.

Thallus lamellas unum latus versus liberas formans. Apothecia in latere inferiore sita (aut parcius etiam in latere superiore). Paraphyses apice clavato aut capitato, capite ellipsoideo, basi sat praerupta instructo. Sporae fusiformi-oblongae aut ovoideo-ellipsoideae, apicibus obtusis aut rotundatis, 8:nae, monostichae, simplices, decolores, long. 0.005—0.010, crass. 0.002—0.004 mm. Gonidia ad Trentepohliam pertinentia, cellulis 0.010—0.018 mm crassis. — Haec variatio est forma typica hujus speciei.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20345 McGregor* (abunder fertile). Mindanao, Distr. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1327.* Ad ramos et truncos arborum.

5. **C. subvirescens** Nyl. Vain. l. c. 66.

Gonidia cellulis 0.006—0.010 mm crassis, 0.012—0.110 mm longis. Thallus lamellas formans. Apothecia in latere superiore et inferiore thalli sita. Sporae ellipsoideo- aut fusiformi-oblongae, apicibus obtusis, 8:nae, monostichae, simplices, long. 0.005—0.007, crass. 0.002—0.003 mm. Hymenium 0.035—0.060 mm crassum, jodo caerulescens deindeque sordide caeruleo-violascens (3568) aut dilute vel dilutissime caerulescens, dein dilute roseo-violascens (9014). Paraphyses apice clavatae et parcius capitatae.

Luzon, Subprov. Bontoc, *Vanoverbergh 874*; Subprov. Bataan, Lamao, *Merrill 3568*. Palawan, prope lacum Manguao, *Merrill 9014*. Mindanao, Distr. Lanao, Castra Keithley prope lacum Lanao, *Mary Strong Clemens 1310* pr. p. Ad truncos et ramulos arborum et raro (1310) supra *Stictam lingulatam*. — Hic notetur *Coenogonium germanicum* Glück (Fl. 1896 p. 268, Arn. Exs. n. 1717 et p. 12) pertinere ad *Cystocoleum nigrum* (Huds.) Hariot [= *Cystocoleus ebeneus* Thwait., A. Smith Mon. Brit. Lich. II tab. 2, nec *Racodium rupestre Pers.*], ad *Trentepohliam auream* (L.) Mart. crescentem.

Trib. 15. ECTOLECHIEAE

1. **Ectolechia** Trev.

1. **E. aspidota** Vain. Catal. Velw. Afr. Pl. II 2 Lich. (1901) 428.

Thallus strato cuticulaeformi obductus, plagulas formans 1—2 mm latas, rotundatas, subintegras, leviter depresso-convexas, laevigatas, albidas aut cinerascentes aut cinereo-glaucescentes, nitidulas, apothecia 1—2 continentes, interdum varie confluentes, fragmenta majuscula irregularia materiae amorphae, quae in ClH maxima parte solvitur, abundanter continens, ex hyphis formatus 0.003—0.0015 mm crassis, ramosis, increbre contextis, leptodermaticis, parce septatis, hypothallo nullo distincto. Apothecia aspicilioidea, primum immersa, demum emergentia, disco plano, impresso, 0.2—0.5 mm lato, fuscescente, nudo aut tenuiter pruinoso, opaco, rotundato aut demum anguloso irregularive (in apotheciis confluentibus), demum jugo thallino, elevato, subintegro cincto. Hypothecium albidum, nullo strato gonidioso impositum. Hymenium circ. 0.080 mm crassum, jodo non reagens, epiplasmate ascorum rubente. Epithecium pallidum aut decoloratum, gonidiis destitutum. Paraphyses parce ramoso-connexae, sat crebre septatae, tubulis tenuissimis, gelatinam abundantem, e membranis formatam, percurrentibus. Asci membrana tenui. Sporae solitariae, decolores, ellipsoideae aut oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, jodo non reagentes, long. 0.054—0.077, crass. 0,020—0.030 (juveniles minores), membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.005—0.010 mm, tantum simplicia visa, membrana sat tenui, for-

san ad Pleurococcum pertinentia. Incertum anne *Gyalectidium dispersum* Müll. Arg. Lich. Beitr. (Fl. 1881) n. 252 huc pertineat, at observante auctore ipso (Lich. Beitr. n. 1512) pertinet ad *Ect. (Gonothecium) phyllocharidem* (Mont.), gonidiis hymenialibus ab *Ect. aspidota* differentem, et prope Manilam a Gaudich. lectum est (n. 49).

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14889 a*, *14890* (in foliis arboris n. 14888). Polillo, *Robinson*. Mindanao, prope lacum Lanao, *For. Bur. 19359 F. L. Pray*, in foliis *Diplodisci paniculati*.

Obs. Plantae sequentes, sec. Rehm ad fungos pertinentes, *Ectolechieis* analogae, hic notentur: *Melittosporiopsis pseudopezizoides* Rehm Hedwigia 1900 p. 91, Ascom. Philipp. III p. 404, Elm. Leafl. Philipp. Bot. 1914 p. 2237. *M. gigantospora* (Rehm) Sacc. et Syd. Syllog. Fung. XVI p. 752, Rehm Hedwigia 1900 p. 90, Ascom. Philipp. II p. 262, Elm. Leafl. Philipp. Bot. 1914 p. 2237 (*M. violacea* Rehm f. Rehm Hedwigia 1892 p. 92, v. Höhnel Denkschr. Ak. Wiss. Wien 33, 1907, p. 32). *M. pachycarpa* Rehm Hedwigia 1904 p. 11, Elm. Leafl. Philipp. Bot. 1914 p. 2237.

2. **Tricharia** (Fée) Vain.

Thallus pilis instructus nigris, ex hyphis tenuibus conglutinatis formatis, gonidia pleurococcacea continens. Apothecia emergentia aut thallo adnata, margine tenui. Paraphyses simplices. Sporae solitariae, murales, decolores.

1. **Tr. melanothrix** Fée Ess. Crypt. Écorc. XCVIII, CII, 2 part. 149; Müll. Arg. Pyr. Cub. 418, Lich. Beitr. n. 273, 274, 1526, Prim. Fl. Cost. Lich. II 173; Krempelh. Lich. Foliic. 23, Lich. Beccar. Born. 59; Zahlbr. Ergebn. Exp. Südbras. 132. *Tr. orbicularis* Krempelh. Lich. Foliic. 24, Lich. Beccar. Born. 64 pr. p. (teste Müll. L. B. n. 1577).

Thallus tenuis aut tenuissimus, continuus aut dispersus, maculas formans circ. 4—30 mm latas, irregulares, glaucescens aut albido- vel cinereo-glaucescens, leviter nitidus, sat laevigatus, pilis ornatus nigris, sat crebris, apicem versus sensim attenuatis, parte inferiore circ. 0.032 mm crassis, bulbo hemisphaerico aut conoideo, circ. 0.180 mm lato, solido, vertice in pilum continuato aut setula destituto aut tritu setula orbato, instructis, ex hyphis formatis tenuibus, sat leptodermaticis, parallelis, conglutinatis, linea hypothallina ru-

fescente aut fuscescente saepe partim limitatus. Apothecia orbicularia, 0.31—0.21 mm lata, tenuia, adnata aut emergentia, naevioidea aut sublecideoidea, basi haud constricta, disco plano, rufo aut raro pallido, nudo, opaco, margine tenui, integro, leviter aut haud prominente, persistente, fuscescente aut disco concolore. Perithecium laterale, tenue, fuscescens aut rufescens aut raro pallidum, ex hyphis formatum 0.002—0.003 mm crassis, sat leptodermaticis, conglutinatis, apicibus in superficie constipatis. Hypothecium albidum. Hymenium circ. 0,040 mm crassum, jodo fulvescens. Epithecium pallidum aut decoloratum. Paraphyses simplices, arcte cohaerentes, sat increbre septatae, tubulis tenuissimis, membranis gelatinosis, modice incrassatis. Sporae solitariae, decolores, ellipsoideae aut suboblongae, apicibus rotundatis, rectae, murales, cellulis numerosissimis, in seriebus transversis circ. 10—15, long. 0.036—0.040, crass. 0.017—0,018 mm, membrana haud gelatinosa. Gonidia globosa, diam. 0.005—0.012 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Huc forsan pertinet *Lopadium urceolatum* Müll. Arg. Lich. Beitr. n. 273. *L. carneum* Müll. Arg., Lich. Beitr. n. 274, secund. specim. autent. in herb. Nyl. ad *Ectolechiam* pertinet et pilis destitutum.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson*. Polillo, *Robinson*. Mindanao, Subprov. Butuan, *Weber 1410*. Mindoro, Bulalacao, *Bur. Sci. 6695* pr. p. *Robinson*. Ad folia arborum.

3. **Calenia** Müll. Arg.

1. **C. thelotremella** Vain. sp. nov.

Thallus infra cuticulam folii crescens, maculas vel plagulas formans 1—23 mm latas, irregulares, continuas aut varie dispersas, ambitu integras aut laceratas lacinulatasve (var. **lacinulata** Vain.), crebre depresse verruculoso-rugulosus, cinereo- aut albido-glaucescens aut sordide albidus, nitidulus, fragmenta majuscula materiae amorphae, quae in ClH solvitur, abundanter continens, ex hyphis formatus 0,002—0.0015 mm crassis, ramosis, increbre contextis, leptodermaticis, increbre septatis, hypothallo indistincto. Apothecia ascidioidea,

0.23—0.4 mm lata, elevata, urceolata, basi leviter dilatata aut demum sat abrupta, haud constricta, ostiolo 0.15—0.25 mm lato, disco concavo, impresso, pallido aut subcinerascente, nudo, orbiculari, margine bene elevato, modice incrassato (circ. 0.04 mm crasso), integro, thallo concolore, acie sat acuto aut rarius subobtuso. Hypothecium subalbidum, nullo strato gonidioso impositum. Hymenium jodo non reagens, epiplasmate ascorum rubente. Epithecium decoloratum, gonidiis destitutum. Paraphyses increbre parceve ramoso-connexae, tubulis tenuissimis, gelatinam abundantem, e membranis formatam, percurrentibus, modice septatae. Asci ventricoso-oblongi, long. circ. 0.085, crass. 0.030 mm, membrana tenui. Perithecium laterale cartilagineum, extus strato thallino obductum. Sporae 4:nae aut raro 2:nae, decolores, oblongae elongataeve, vulgo curvatae, apicibus rotundatis obtusisve, septis transversalibus 11—17, loculis cylindricis, vulgo sat aequalibus, raro nonnullis loculis demum septo uno longitudinali divisis, long. 0.058—0.090, crass. 0.011—0.014 mm, membrana tenui, haud gelatinosa, jodo lutescentes. Gonidia globosa, diam. 0.005—0.010 mm, tantum simplicia visa, ad Pleurococcum pertinentia.

Luzon, Subprov. Bataan, *Bur. Sci. 9621* pr. p. Robinson; Subprov. Laguna, Los Baños, *Bur. Sci. 6714*, *6612* pr. p. *Robinson*; Subprov. Tayabas, Guinayangan, *Bur. Sci. 20918* pr. p. (var. **lacinulata**) *Escritor*, prope flumen Anoling, *Robinson*, via Siniloan, *Robinson*. Polillo, *Robinson* (var. **lacinulata** pr. p.). Mindanao, Suprov. Butuan, *Weber 1425* pr. p.; Suprov. Cotabato, *Bur. Sci. 11651* pr. p. *Robinson*. Ad folia *Donacis cannaeformis* (Frest.), *Dilleniae philippinensis* Rolfe, *Eugeniae*, *Freycinetiae* aliarumque arborum.

2. **C. meiospora** Vain. sp. nov.

Thallus tenuis aut sat tenuis, continuus aut dispersus, maculas formans 1—40 mm latas, irregulares, ambitu integras aut laceratas, cinereo- aut albido-glaucescens, crebre depresse verruculoso-rugulosus aut raro partim sat laevigatus, nitidus, fragmenta materiae amorphae, quae in ClH solvitur, continens, ex hyphis formatus 0.003—0.0015 mm crassis, leptodermaticis, increbre septatis, hypothallo indistincto. Apothecia primum thallo immersa, dein emer-

gentia et thallo adnata, lecanoroidea, latere praerupto, basi haud constricta, 0.9—0.4 mm lata, 0.070—0.120 mm crassa, disco plano, sordide aut cinerascenti- aut livido-pallescente aut livido-fuscescente, sat opaco, orbiculari aut rotundato-anguloso aut rarius leviter irregulari, margine leviter aut haud prominente, tenui aut sat tenui, thallo concolore, integro aut demum leviter parceque crenulato. Hypothecium pallidum aut sordide pallidum aut rarius albidum, nullo strato gonidioso impositum, in parte superiore ex hyphis erectis formatum, KHO non reagens, jodo dilute rubescens. Exipulum thallinum, intus albidum, KHO non reagens, fragmenta majuscula materiae amorphae, quae in ClH solvitur, abundanter continens, gonidiis praesertim in parte laterali marginis instructum, in basi marginis parenchymaticum, cavitatibus cellularum globosis, 0.002—0.004 mm latis, membranis leviter incrassatis. Hymenium 0.040—0.060 mm crassum, jodo non reagens, epiplasmate ascorum rubente. Epithecium rufescens aut livido-fuscescens aut sordide pallidum, KHO non reagens, gonidiis destitutum. Paraphyses increbre parceve ramoso-connexae, tubulis tenuissimis, gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus, sat crebre aut increbre septatae. Asci clavati, in apice membrana leviter incrassata. Sporae 8:nae aut raro numero variabiles, decolores, oblongae aut elongatae, apicibus rotundatis aut obtusis, saepe plus minusve curvatae, septis transversalibus 5—8, loculis cylindricis, vulgo sat aequalibus, raro uno loculo demum septo longitudinali diviso, long. 0.022—0.041, crass. 0.006—0.010 mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.005—0.010 mm, vulgo simplicia, raro etiam 4-cellulosa visa, ad Pleurococcum pertinentia. — Secundum descriptionem affinis sit *C. depressae* Müll. Arg. (Prim. Costaric. Lich. 61), quae sporis 1—4:nis, 8—16-locularibus ab ea differt.

Luzon, Subprov. Rizal, Antipolo, *Bur. Sci. 11854, 11855 Robinson, Ramos*; Subprov. Laguna, Caluan, *Bur. Sci. 12507 Mc Gregor*; Subprov. Tayabas, flumen Anoling, *Robinson*. Polillo, *Robinson*. Mindoro, flumen Alag, alt. 500 ped., *Merrill*. Ad folia coriacea arborum (*Muraya exotica*, cet.).

3. **C. leptocarpa** Vain. sp. nov.

Thallus tenuis aut tenuissimus, continuus aut partim dispersus, maculas formans 11—4 mm latas, irregulares, margine integras aut partim laceratas, cinereo-glaucescens, crebre depresse verruculoso-rugulosus, leviter nitidus, hypothallo indistincto. Apothecia tenuia, membranacea, thallo immersa, lecanoroidea, 0.6—0.3 mm lata, disco, plano, livido- aut cinereo-glaucescente, opaco, orbiculari, margine leviter prominente, tenui, thallo concolore, saepe leviter verrucoloso-inaequali, extus basim versus leviter dilatato, haud constricto. Excipulum thallinum, intus albidum, gonidia in parte exteriore marginis continens. Hypothecium albidum, nullo strato gonidioso impositum. Hymenium jodo non reagens, epiplasmate ascorum rubente. Epithecium albidum, gonidiis destitutum. Paraphyses increbre ramoso-connexae, crebre septatae, tubulis tenuissimis, gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus. Asci clavati, membrana modice incrassata. Sporae 4:nae aut binae, decolores, oblongae, apicibus rotundatis aut obtusis, curvatae, 7-septatae, loculis cylindricis, sat aequalibus, long. 0.033—0.040, crass. 0.007—0.010 mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.005—0.007 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Proxime affinis est *C. meiosporae*, apotheciis tenuioribus, membranaceis ab ea differens.

Polillo, *Robinson*. Ad folia coriacea arboris.

4. **C. graphidea** Vain. sp. nov.

Thallus tenuis, continuus aut rarius dispersus, maculas formans circ. 17—2 mm latas, irregulares, margine saepe integras, cinereo-glaucescens, bene aut leviter nitidus, crebre depresse verruculoso-rugulosus, hypothallo indistincto. Apothecia thallo immersa, demum vulgo plus minusve emergentia, lecanoroidea, varie irregularia aut saepe etiam orbicularia, long. 1.5—0.4, lat. 0.9—0.4 mm, crass. circ. 0.12 mm, basi demum leviter constricta aut latere abrupta, disco plano, pallido aut rarius albido- aut cinerascenti-pallido, opaco aut parum nitido, margine tenui, prominente, subalbido aut thallo

concolore, leviter crenulato aut subintegro aut ambitu toto apothecii lobato vel crenato. Excipulum lecanorinum, strato perithecciali tenui, saepe pallido. Hypothecium pallidum aut albidum, nullo strato gonidioso impositum. Hymenium circ. 0.080 (—0.030) mm crassum, jodo dilute roseum aut vulgo non reagens, epiplasmate ascorum rubente. Epithecium decoloratum aut pallidum, gonidiis destitutum. Paraphyses increbre ramoso-connexae aut maxima parte simplices, septatae, tubulis tenuissimis gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus. Asci ventricoso-clavati, membrana vulgo apice modice incrassata. Sporae 8:nae aut 4:nae, decolores, oblongae, apicibus obtusis aut rotundatis, leviter curvatae, septis transversalibus 4—8, loculis cylindricis, sat aequalibus, long. 0.017—0.050, crass. 0.007—0.010 (—0.005) mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.004—0.010 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Haec species valde variabilis apotheciis vulgo *Graphideas (Platygrammata)* in memoriam revocat, at aliis apotheciis haud facile a *Calenia thelotremella* distinguitur.

Luzon, Subprov. Rizal, *Bur. Sci. 12548* pr. p. *Ramos*; Subprov. Laguna, Los Baños, *Bur. Sci. 6612* pr. p., *6618 Robinson*; Subprov. Tayabas, prope viam Siniloan et flumen Anoling, *Robinson*. Polillo, *Robinson*, *Bur. Sci. 10797* pr. p. *McGregor*. Ad folia *Dilleniae philippinensis*, *Eugeniae*, *Palmarum* aliarumque arborum.

5. **C. graphideoides** Vain. sp. nov.

Thallus tenuis, vulgo continuus, maculas formans circ. 7—1 mm latas, irregulares, margine saepe integras, glaucescens, leviter nitidus, parum distincte verruculoso-rugulosus, verruculis minutissimis, depressis, crebris, hypothallo indistincto. Apothecia thallo immersa, demum emergentia, lecanoroidea, orbicularia aut rarius leviter angulosa, 0.5—0.35 mm lata, latere demum abrupta, basi haud constricta, disco plano, pallido et tenuissime albido-pruinoso, opaco, margine tenui aut sat tenui, prominente, albido aut albido-pallescente aut primum thallo concolore, integro, persistente. Hypothecium pallidum aut albidum, nullo strato gonidioso imposi-

tum. Hymenium jodo non reagens. Epithecium gonidiis destitutum. Paraphyses increbre ramoso-connexae, sat crebre septatae, tubulis tenuissimis gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus. Sporae binae, decolores, elongatae, apicibus rotundatis, curvatae, septis transversalibus 11—12, loculis cylindricis, sat aequalibus, long. circ. 0.060, crass. 0.012 mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.006—0.010 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Proxime affinis *C. graphideae.*

Polillo, *Robinson.* Ad folia arboris.

6. **C. leucothrix** Vain. *Echinoplaca epiphylla* Fée Ess. Lich. Ecorc. (1824), L, XCIII, tab. 1 fig. 29; Krempelh. Lich. Beccar. Born. 41; Müll. Arg Lich. Beitr. (Fl. 1890) n. 1526. Huc evidenter pertinet *Tricharia leucothrix* Fée l. c. XCVIII, CII, tab. III fig. 18 B; Müll. Arg. Lich. Cost. II 173. *Arthonia pellicula* f. *trichariosa* Müll. Arg. Exp. Gaz. 56 (Lich. Beitr. n. 1518); Willey, Syn. Arth. 17.

Thallus tenuis, vulgo continuus, maculas formans circ. 5—40 mm latas, irregulares, margine saepe integras, cinereo- aut albido-glaucescens aut glaucus, sat opacus, crebre depresse verruculoso-rugulosus, pilis ornatus sat crebris aut increbris, circ. 2.3—0.28 mm longis, e pede infimo 0.07—0.08 mm lato, conico, et basi cylindrica circ. 0.04 mm crassa sensim attenuatis acutisque, pallidis aut albidis, vulgo erectis, rigidis, solidis, ex hyphis formatis sat leptodermaticis, parallelis, conglutinatis, ceterum thallus hyphas continens 0.003 mm crassas, leptodermaticas, hypothallo nullo distincto. Apothecia thallo immersa aut rarius demum emergentia, aspicilioidea, orbicularia, 0.6—0.35 mm lata, disco plano aut raro leviter concavo, livido aut livido-rufescente aut cinereo-pallescente aut pallido, nudo, opaco, margine tenui, leviter aut haud prominente, subintegro, persistente, thallo subconcolore, parum distincto aut (in apotheciis emergentibus) interdum demum extus abrupto aut basi leviter constricta. Perithecium albidum, parum evolutum. Hypothecium pallidum aut albidum, KHO non reagens, nullo strato gonidioso impositum. Hymenium 0.050—0.080 mm crassum, jodo

fulvescens. Epithecium subpallidum, KHO non reagens, gonidiis destitutum. Paraphyses ramoso-connexae, sat crebre septatae, tubulis tenuissimis, gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus. Asci ventricoso-clavati, in apice membrana leviter incrassata, epiplasmate jodo rubente, Sporae 8:nae, polystichae, decolores, oblongae elongataeve, apicibus rotundatis aut obtusis, vulgo curvatae, septis transversalibus 7—4, loculis cylindricis, sat aequalibus, long. 0.035—0.040, crass. 0.005—0.007 mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.004—0.007 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Habitu vulgo *Caleniae meiosporae* Vain. similis, at thallo constanter subalbido-strigoso instructus.

Luzon, Subprov. Laguna, Los Baños, *Robinson*; Subprov. Tayabas, flumen Anoling, *Robinson*; Subprov. Albay, mons Mayon, *Bur. Sci. 6515 Robinson*. Polillo, *Robinson*, *Bur. Sci. 10795* pr. p., *10806* pr. p., *10808* pr. p. *McGregor*. Mindoro, flumen Alag, alt. 500 ped., *Merrill*, Bulalacao, *Bur. Sci. 6695 Robinson*. Ad folia variarum arborum plantarumque *(Donax cannaeformis, Pothos, Taxotrophis ilicifolia, Unona)*. Fertilis locis numerosis.

7. **C. leucothricoides** Vain. sp. nov.

Thallus tenuis, continuus aut partim dispersus, maculas formans circ. 14—3 mm latas, albido-glaucescens aut circa apothecia pallescens, sat opacus, crebre verruculoso-rugulosus aut verruculis discretis instructus, pilis destitutus aut partim pilis plus minusve parcis instructus, sordide albidis, apicem versus sensim attenuatis, circ. 0.5—1.5 mm longis, hypothallo indistincto. Apothecia thallo immersa, aspicilioidea, orbicularia, 0.5—0.2 mm lata, disco plano, fuscescente aut rarius dilute olivaceo-fuscescente, nudo, sat opaco, margine indistincto. Hypothecium decoloratum aut pallidum, nullo strato gonidioso impositum, ceterum perithecium indistinctum. Hymenium jodo non reagens. Epithecium decoloratum, gonidiis destitutum. Paraphyses ramoso-connexae, sat crebre septatae, tubulis tenuissimis, gelatinam sat abundantem percurrentibus. Sporae solitariae, decolores, oblongae aut subovoideo-oblongae, apicibus rotundatis, septis transversalibus 16—24, loculis ambobus apicalibus

saepe reliquis longioribus, long. 0.068—0.074, crass. 0.015—0.018 mm, membrana haud gelatinosa. Gonidia globosa, diam. 0.005—0.008 mm, tantum simplicia visa, ad Pleurococcum pertinentia.

Polillo, *Robinson*. Ad folia arboris.

4. **Lecaniella** Vain.

1. **L. atypica** Vain. sp. nov.

Thallus tenuis, continuus, maculas formans circ. 17—8 mm latas, irregulares, margine saepe integras, glaucescens, sat opacus, verruculis hemisphaericis crebre inspersus, glaber, substrato arcte adnatus, hypothallo indistincto. Apothecia thallo immersa, orbicularia aut rarius leviter irregularia, 1—0.5 mm lata, tenuia, membranacea, arthonioidea, immarginata, disco plano, testaceo aut testaceo-rufescente, nudo, sat opaco, altitudine superficiem thalli aequante. Perithecium indistinctum, hyphis coralloideis nullis compensatus. Hypothecium pallidum, strato gonidioso haud impositum. Hymenium totum pallidum, jodo parum reagens aut dilutissime roseum, gonidiis destitutum. Paraphyses arcte cohaerentes, simplices, sat crebre septatae, tubulis tenuissimis, membranis gelatinosis. Sporae 4:nae aut binae, decolores, elongatae, apicibus rotundatis, saepe curvatae, septis transversalibus circ. 11 aut pluribus, long. circ. 0.050, crass. 0.012 mm, membrana haud gelatinosa. Gonidia globosa, diam. 0.006—0.010 mm, ad Pleurococcum pertinentia.

Polillo, *Robinson*. Ad folia coriacea arboris.

5. **Byssolecania** Vain. gen. nov.

1. **B. fuscolivida** Vain. sp. nov.

Thallus tenuissimus, continuus, maculas formans circ. 40 mm latas aut minores, irregulares, glaucescens, leviter nitidus, laevigatus, glaber, membrana cuticulaeformi saepe facile desquamescens, hypothallo nullo distincto. Apothecia thallo immersa, orbicularia, 1.3—0.8 mm lata, crass. 0.045—0.055 mm, membranacea, arthonioidea, immarginata, disco plano, fuscescente, nudo, parum nitido,

superficiem thalli aequante. Perithecium indistinctum. Hypothecium tenue, dilute fuscescens aut olivaceo-pallidum aut pallidum, KHO non reagens, nullo strato gonidioso impositum. Hymenium 0.035—0.040 mm crassum, jodo caerulescens, dein partim decoloratum, ascis persistenter caerulescentibus. Epithecium dilute fuscescens aut decoloratum, gonidiis destitutum. Paraphyses arcte cohaerentes, simplices, tubulis tenuibus, membranis gelatinosis, ad ambitum apothecii aëre disjunctae et exteriores ramosae saepeque coralloideae. Asci clavati aut oblongi, in apice membrana leviter incrassata. Sporae 8:nae, polystichae, decolores, fusiformes, apicibus obtusis, rectae, 3-septatae, loculis aequalibus, long. 0.016—0.023, crass. 0.003—0.0 5 mm, membrana tenui, haud gelatinosa. Gonidia globosa aut saepe ellipsoideae, crass. 0.004—0.007 mm, ad Pleurococcum pertinentia. — Genus *Byssolecania* apotheciis membranaceis et parathecio byssoideo distinguitur et potius ad *Pilocarpeas* pertinet.

Polillo, *Robinson*. Mindanao, Butuan, *Weber 1413*. Ad folia arborum.

2. **B. scotia** Vain. sp. nov.

Thallus tenuissimus, continuus, maculas formans circ. 0.015—0.050 mm latas, irregulares, cinereo- vel obscure glaucescens, sat opacus, laevigatus, glaber, substrato arcte adnatus, hypothallo subfusco partim limitatus. Apothecia thallo immersa, orbicularia, 1—0.7 mm lata, crass. 0.050—0.030 mm, membranacea, arthonioidea, immarginata, disco plano, fuscescente, nudo, sat opaco, altitudine superficiem thalli aequante. Perithecium indistinctum. Hypothecium tenue, aeruginosum aut olivaceo-cyanescens aut cyanescens aut rufescenti-variegatum, substrato impositum nec strato gonidioso. Hymenium circ. 0.045—0.025 mm crassum, jodo persistenter caerulescens. Epithecium decoloratum aut dilute pallidum, gonidiis destitutum. Paraphyses arcte cohaerentes, simplices, membranis gelatinosis, sat crassis, tubulis 0.001 mm crassis, sat crebre septatis. Asci clavati aut obovoidei, in apice membrana bene aut modice incrassata. Sporae 8:nae, polystichae, decolores, oblongae, apicibus

obtusis aut altero apice rotundato, rectae, 3-septatae, loculis aequalibus, long. 0.010—0.015, crass. 0.003—0.004 mm, membrana tenui, haud gelatinosa. Gonidia globosa, diam. 0.004—0.008 mm, ad Pleurococcum pertinentia, parce evoluta (etiam Phycopeltis tropica, thallo membranacco, integro instructa, in thallo lichenis saepe adest). Paraphyses ad ambitum apothecii aëre disjunctae et exteriores sat laxe contextae, 0.003—0.002 mm crassae, pachydermaticae, ramosae, crebre septatae. Parathecium tale byssocarpoideum etiam in nonnullis *Arthoniis* obvenit. — Proxime affinis *B. fuscolividae*, quae colore hypothecii et sporis ab ea differt.

Polillo, *Robinson*. Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Ad folia variarum arborum.

6. **Asterothyrium** Müll. Arg.

1. **A. Robinsonii** Vain. sp. nov.

Thallus plagulas formans 0.6—1.7 mm latas, rotundatas, integras, leviter depresso-convexas, laevigatas, albidas aut albido-glaucescentes, leviter nitidas, apothecia solitaria continentes, hyphis 0.002—0.0015 mm crassis, leptodermaticis, irregulariter contextis, increbre septatis, strato cuticulaeformi obductus, hypothallo indistincto. Apothecia aspicilioidea, thallo immersa, demum parum emergentia, disco plano, 0.3—0.2 mm lato, orbiculari, fuscescente, nudo, opaco, superficiem thalli aequante, margine fuscescente, haud prominente, tenui, integro, parum distincto. Hypothecium decoloratum, strato gonidioso haud impositum. Epithecium decoloratum, gonidiis destitutum. Paraphyses laxe cohaerentes, crass. 0.001—0.0007 mm, apice saepe leviter incrassatae, sat increbre septatae, simplices. Asci membrana tenui. Sporae binae aut quaternae, decolores, ellipsoideae aut oblongae, apicibus rotundatis, uniseptatae, haud aut leviter constrictae, membrana modice incrassata, haud gelatinosa, long. 0.044—0.056, crass. 0.018—0.024 mm. Gonidia globosa, diam. 0.004—0.006 mm, ad Pleurococcum pertinentia. — Paraphysibus liberis, haud gelatinosis ab aliis speciebus subsimilibus hujus generis differt.

Luzon, Subprov. Laguna, *Bur. Sci. 9688 Robinson*. Ad folia arboris.

2. **A. Elmeri** Vain. sp. nov.

Thallus plagulas formans 0.6—2 mm latas, rotundatas, integras, leviter depresso-convexas, laevigatas, albidas aut sordide albidas aut rarius albido-glaucescentes, leviter nitidas aut sat opacas, apothecia 1—4 continentes, hyphis circ. 0.002 mm crassis, leptodermaticis, irregulariter contextis, increbre septatis, strato cuticulaeformi obductus, hypothallo indistincto. Apothecia aspicilioidea, thallo immersa, raro demum leviter emergentia, disco plano, 0.3—0.1 mm lato, orbiculari aut leviter irregulari, fuscescente aut livido-fuscescente, margine thallo concolore aut obscuriore, leviter prominente, saepe in lobos nonnullos diviso. Hypothecium albidum, strato nullo gonidioso impositum. Epithecium pallido-rufescens, gonidiis destitutum. Hymenium jodo non reagens, epiplasmate ascorum rubente. Paraphyses simplices, tubulo 0.0007 mm crasso gelatinam, e membranis conglutinatis formatam, percurrentibus. Asci membrana tenui. Sporae binae aut quaternae, decolores, ellipsoideae, apicibus rotundatis, uniseptatae, haud aut leviter constrictae, long. 0.044—0.056, crass. 0.020—0.028 mm, membrana sat crassa (0.002—0.003 mm), haud gelatinosa. Gonidia globosa, diam. 0.005—0.007 mm, ad Pleurococcum pertinentia. — Ab *Ast. Welwitschii* Vain. colore hypothecii et sporis quaternis differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14449*. In foliis arboris 14448.

3. **A. maculans** Vain. sp. nov.

Thallus plagulas formans 1.5—0.3 mm latas, supra folia nutricis numerosissimas, rotundatas aut irregulares, tenuissimas, planas aut raro levissime convexas, laevigatas, flavido-glaucescentes, parum nitidas, apothecia solitaria continentes aut maxima parte steriles, strato cuticulaeformi obductas, hypothallo nullo distincto. Apothecia 0.26—0.15 mm lata, aspicilioidea, thallo immersa et demum vulgo leviter emergentia, disco punctiformi, orbiculari, circ. 0.18—0.1 mm lato, fuscescente aut testaceo-rufescente, margine thallo concolore, saepe leviter prominente, tenui, integro aut sublobulato, extus saepe sat abrupto. Hypothecium albidum, strato nullo gonidioso imposi-

tum, jodo vinose rubens. Hymenium 0.055—0.060 mm crassum, jodo dilutissime vinose rubens aut parum reagens. Epithecium albidum. Paraphyses tenues, laxe cohaerentes, septatae, simplices aut partim parcissime ramoso-connexae, membranis gelatinosis. Asci clavati, membrana apice incrassata. Sporae 8:nae, distichae, decolores, ovoideae aut ovoideo-ellipsoideae, apicibus rotundatis aut altero apice obtuso, uniseptatae, membrana tenui, haud gelatinosa, long. 0.013—0.014, crass. 0.005 mm. Gonidia globosa, diam. 0.004—0.008 mm, tantum simplicia visa, ad Pleurococcum pertinentia. — Minutie ab aliis *Asterothyriis* differt.

Polillo, *Robinson*. Ad folia coriacea arboris.

4. **A. naevium** Vain. sp. nov.

Thallus tenuissimus, dispersus aut plagulas formans 2.5—0.2 mm latas, supra folia nutricis numerosissimas, irregulares aut laceratas, planas, laevigatas, flavido-glaucescentes, leviter nitidas, apothecia solitaria aut pauca continentes aut maxima parte steriles, strato cuticulaeformi obductas, hyphis leptodermaticis, circ. 0.002 mm crassis, linea hypothallina rufescente pro minore parte limitatus. Apothecia circ. 0.2 mm lata, aspicilioidea, thallo immersa et vulgo verruculas conoideas formantia, disco punctiformi, orbiculari, circ. 0.11 mm lato, fuscescente, margine thallo concolore, discum haud superante, sat tenui, integro, basim versus sensim dilatato aut raro sat abrupto. Hypothecium dilute olivacco-pallidum, jodo dilute vinose rubens, strato nullo gonidioso impositum. Hymenium 0.040 mm crassum, totum decoloratum, jodo non reagens. Paraphyses ramoso-connexae, sat crebre septatae, tubulis tenuibus, gelatinam sat abundantem, e membranis conglutinatis formatam, percurrentibus. Asci clavati, membrana sat tenui, apice parum incrassata, epiplasmate jodo rubescente. Sporae 8:nae, distichae, decolores, oblongo-ovoideae, septo uno in medio sporae, haud constrictae, membrana tenui, haud gelatinosa, long. 0.007—0.012, crass. 0.0025—0.004 mm. Gonidia globosa, diam. 0.006—0.008 mm, tantum

simplicia visa, ad Pleurococcum pertinentia. — Proxime affine est *Ast. maculanti* Vain. et forsan ejus variatio.

Luzon, Subprov. Tayabas, via Siniloan, *Robinson*. Ad folia coriacea arboris.

Trib. 16. URCEOLARIEAE

1. **Diploschistes** Norm.

1. D. cinereocaesius (Sw.) Vain.

Thallus crustaceus, crassitudine mediocris, verrucoso-inaequalis, subcontinuus aut leviter areolato-diffractus, verrucis areolisque contiguis, convexis, albido-glaucescens, opacus, $CaCl_2O_2$ rubescens, nec KHO, nec I reagens, sorediis destitutus, hypothallo indistincto. Apothecia 2—0.5 mm lata, numerosa, demum partim contigua, demum aperta, disco concavo aut saepe demum plano, caesio- aut livido-pruinoso, margine sat tenui aut modice incrassato, integro aut leviter verruculoso, thallo concolore, extus demum abrupto aut basi leviter constricta. Perithecium laterale (vel margo apothecii) intus fusconigrum, 0.13—0.15 mm latum, superne obductum strato albido, 0.020—0.030 mm crasso, gonidiis destituto, ex hyphis formato erectis, conglutinatis, modice pachydermaticis, cavitatibus cellularum angustis, elongatis. Perithecium basale praesertim medio pallidum, maculis fuscescentibus, tenue. Hypothecium albidum aut dilute pallidum, tenue. Hymenium 0.130—0.150 mm crassum, jodo non reagens. Epithecium fusco-nigrum aut nigricans. Sporae 8:nae, distichae, oblongae aut oblongo-fusiformes, apicibus obtusis aut rarius rotundatis, nigricantes, juveniles primum decolores, murales, cellulis haud numerosis, septis transversalibus 5—6, septis longitudinalibus paucis, long. 0.019—0.028, crass. 0.008—0.013. Pycnoconidangia thallo immersa, ostiolo nigricante indicata, plurilocularia, parietibus albis. Sterigmata simplicia, haud articulata. Conidia oblonga, recta aut leviter curvata, apicibus obtusis, long. 0.005—0.003, crass. 0.001—0.0007 mm. Gonidia globosa, diam. 0.006—0.016 mm, simplicia aut glomerulosa, ad Pleurococcum pertinentia.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8541, 8565, 8580 McGregor*. Ad terram arenosam et muscosam.

Trib. 17. THELOTREMEAE

1. **Phyllobrassia** Vain.

1. Ph. mirifica (Krempelh.) Vain.

Platygrapha Krempelh. Lich. Foliic. 13, Lich. Beccar. Born. 40. *Thelotrema mirificum* Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1538.

Thallus crustaceus, tenuis aut tenuissimus, continuus aut radiato-laciniatus aut varie interruptus, verruculoso-inaequalis, maculas circ. 70—10 mm latas formans, albido-glaucescens aut glaucescens, sat opacus aut leviter nitidus, KHO non reagens, hypothallo nullo distincto. Apothecia thallo immersa, demum emergentia, vulgo increbra, lat. 1—0.25 mm, crass. 0.085—0.095 mm, orbicularia aut raro leviter irregularia, ectolechioideo-thelotremoidea, disco plano, carneo-pallido aut pallescente aut fuscescente, nudo aut tenuissime pruinoso, opaco, vulgo orbiculari, margine sat tenui, discum modice superante, albido, vulgo demum lacinulato-crenulato, crenulis vulgo circ. 6 aut interdum numerosis, radiantibus, latere exteriore demum abrupto aut basi leviter constricta. Perithecium laterale cartilagineum, impellucidum, superne in lamina tenui saepe dilute fuscescenti-pallidum, inferne albidum. Hypothecium tenue, albidum aut pallidum, aut inferne stramineo-olivaceum, substrato impositum, gonidiis destitutum, jodo non reagens. Hymenium 0.065—0.040 mm crassum, jodo non reagens, epiplasmate ascorum rubescente. Epithecium sordide pallidum aut stramineo-flavescens aut dilute olivaceo-pallidum, gonidiis destitutum. Paraphyses sat arcte aut sat laxe cohaerentes, simplices, sat crebre septatae, apice leviter incrassatae, tubulis 0.0015 mm crassis, gelatinam, e membranis formatam, percurrentibus. Asci clavati, membrana tenui. Sporae 8:nae, distichae, fusiformes aut oblongae aut ovoideo-oblongae, apicibus obtusis aut rotundatis, decolores, rectae, submurales, cellulis paucis, septis transversalibus 3—5, loculo uno vel loculis duobus septo longitudinali divisis, jodo non reagentes, long. 0.008—0.017, crass. 0.0025—0.006 mm, membrana tenui, haud gelatinosa, loculis cylindricis, haud lenticularibus. Thallus hyphis tenuibus, leptodermaticis. Gonidia ad *Heterothallum* pertinentia, flava, fila ramosa formantia, cellulis lepto-

dermaticis, oblongis, 0.005—0.006 mm crassis, concatenatis. Etiam *Phycopeltis tropica* (Moeb.) saepe in thallo observatur. — Genus *Phyllobrassiae* sporis submuralibus, decoloribus, disco apotheciorum dilatato et gonidiis ad speciem insignem *Heterothalli* (Hariot) pertinentibus a *Brassia* Mass. et *Phyllophthalmaria* Müll. Arg. (Lich. Beitr. n. 696) differt.

Var. **integra** Vain.

Thallus continuus, ambitu integro. — Huc forsan pertinet *Ocellularia* (sect. *Chroodiscus*) *argillacea* Müll. Arg. Lich. Beitr. n. 699, „sporis, 3-septatis, 0.010—0.012 mm longis", forsan juvenilibus, „gonidiis laxe phyllactideis" descripta.

Luzon, Subprov. Tayabas, Kabibihan, *Bur. Sci. 13151, 13152 Foxworthy* et *Ramos*, prope flumen Anoling et viam Siniloan, *Robinson*; Subprov. Sorsogon, Irosin, *Elmer 14862*. Polillo, *Robinson*. Mindanao, Subprov. Butuan, *Weber 1428* pr. p. Palawan, prope lacum Manguao, *Merrill 9016* pr. p. Ad folia *Taxotrophidis ilicifoliae*, *Kurthalsiae* et aliarum arborum.

Var. **radians** Vain.

Thallus radiatim laciniatus laceratusque, laciniis dendritice divisis, angustis latioribusve, effusis. In var. *integram* saepe transit. — Huc forsan pertinet *O. argillacea* v. *radians* Müll. Arg. l. c.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12789 Fénix*; Subprov. Tayabas, prope flumen Anoling et viam Siniloan, *Robinson*. Polillo, *Robinson*, *Bur. Sci. 10794*, pr. p., *10801 McGregor*. Mindanao, Subprov. Butuan, *Weber 1382*, *1411*, *1414*, *1428* pr. p. Mindoro, prope flumen Alag, *Merrill*. Palavan, prope lacum Manguao, *Merrill 9016* pr. p. Dagami, Leyte, *C. A. Wenzel*. Panay, Capiz, Libacao, *Bur. Sci. 35826 Martellino*, *Edaño*. Ad folia *Vitis*, *Piperis*, *Eugeniae*, *Kurthalsiae* aliarumque plantarum.

2. **Thelotrema** (Ach.) Eschw.

Subg. 1. **Leptotrema** (Mont. et v. d. Bosch) Vain.

1. **Th. irosinum** Vain. sp. nov.

Thallus crustaceus, crassitudine mediocris, leviter verruculoso-inaequalis, verruculis parum prominentibus, partim crebris, straminео-glaucescens, leviter nitidus, KHO non reagens, hypothallo nullo

distincto. Apothecia numerosa, partim sat crebra, verrucas formantia fere hemisphaericas, basi haud abruptas, 1—0.7 mm latas, thallo concolores, sat laevigatas, vulgo ad ostiolum anguste pallidas aut fuscescentes, ostiolo minutissimo aut indistincto, margine ostiolari saepe leviter vel levissime prominente, tenui. Perithecium fulvofuscescens, integrum, tenue, KHO non reagens, columella nulla. Hymenium jodo non reagens. Paraphyses simplices, gelatinosae. Asci cylindrici. Sporae 8:nae, monostichae aut distichae, oblongae aut ellipsoideae, apicibus obtusis aut rotundatis, demum fumoso-obscuratae, murales, septis transversis 6—10, cellulis sat numerosis, loculis irregularibus, jodo leviter violascentes, long. 0.019 0.033, crass. 0.010—0.015 mm, membrana sat bene incrassata aut tenui, haud gelatinosa. — Affine est *Th. laeviori* Vain. Lich. Antill. 21, a quo verrucis apotheciorum majoribus differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14749*. Ad corticem arboris n. 14734.

2. **Th. vesiculiferum** Vain. sp. nov.

Thallus crustaceus, sat tenuis aut modice incrassatus, verruculis vel gibbis minutissimis, vix 0.1 mm latis, saepe subconoideis increbre inspersus, glaucescens aut sordide glaucescens, leviter nitidus, KHO non reagens, linea hypothallina fuscescente partim limitatus. Apothecia numerosa, partim sat crebra, verrucas formantia hemisphaerico-conoideas, basim versus dilatatas, 1—0.4 mm latas, thallo concolores, vulgo laevigatas, ostiolo 0.6—0.2 mm lato, vulgo leviter irregulari, margine ostiolari tenui, albido, subintegro, disco profunde urceolato-impresso, fundo (apice columellae) albido aut subcaesio. Parathecium tenue, fuscofuligineum, KHO non reagens, strato fulvescente, cellulas corticis continente, KHO non reagente, et strato thallino obductum. Hypothecium subhymeniale albidum, strato tenui, fuscofuligineo impositum. Columella in medio hymenii sita, lata, brevis, fuliginea, apice planiuscula, albida. Sporae 8:nae, monostichae, subglobosae aut ellipsoideae, apicibus rotundatis, demum fumoso-obscuratae, KHO violascentes, septis transversis 2--3,

loculis lenticularibus, saepe partim septo longitudinali divisis, cellulis paucis, long. 0.010—0.013, crass. 0.007—0.009 mm, membrana haud gelatinosa. — Habitu *Th. calathiforme* Vain. in memoriam revocans.

Luzon, Sorsogon, Irosin, *Elmer 14906*. Ad corticem arboris.

3. **Th. marivelense** Vain. sp. nov.

Thallus modice incrassatus, sat laevigatus, stramineo-glaucescens, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia partim crebra, interdum parce confluentia, verrucas formantia hemisphaericas aut depressas, 1.6—0.8 mm latas, laevigatas, thallo concolores, saepe demum basi abruptas, ostiolo 0.5—0.2 mm lato, rotundo, margine ostiolari integro, haud prominente. Parathecium fusco-fuligineum, in parte superiore 0.10—0.08 mm crassum, parte inferiore attenuatum, strato fulvescente cellulas corticis continente, tenui, KHO rubescente, et extus strato thallino, intus albido, KHO non reagente, obductum. Perithecium basale tenue fuscescensque aut deficiens, columella crassa (crass. circ. 0.36 mm), in latere parathecio adnata, fuscofuliginea, apice albida. Hymenium 0.110—0.120 mm crassum, jodo non reagens. Epithecium fumoso-obscuratum aut decoloratum. Sporae 8:nae aut 4:nae aut abortu pauciores, monostichae aut distichae, ellipsoideae aut rarius subglobosae, apicibus rotundatis, fumoso-obscuratae aut fuscescentes, primum decolores, jodo violascentes aut parum reagentes, murales, cellulis sat numerosis aut sat paucis, septis transversis 4—2, long. 0.28—0.011, crass. 0.013—0.009 mm, membrana sat tenui, haud gelatinosa. — Subsimile *Th. bahiano* Ach., at verrucis apotheciorum partim paullo majoribus et colore parathecii columellaeque ab eo differens. *Th. andamanicum* Nyl. sec. specim. orig. apotheciis multo minoribus, minus prominentibus et ostiolo minore jam facie externa a *Th. marivelensi* distinguitur.

Luzon, Subprov. Bataan, mons Mariveles, alt. 700 m, *Whitford 1086* pr. p., *1088* pr. p. Ad corticem *Calophylli*.

4. **Th. phaeosporum** Nyl. Enum. Gén. Lich. 118, Lich. Exot. 242, Syn. Lich. Nov. Cal. 38, Fl. 1867 p. 195.

Thallus modice incrassatus, verruculis minutissimis, parum prominentibus, partim inspersus, ceterum sat laevigatus, stramineo-glaucescens, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia dispersa, haud aut parum prominentia aut demum verrucas formantia depresso-hemisphaericas, 0.5—0.6 mm latas, laevigatas, thallo concolores, basim versus sensim dilatatas, margine ostiolari haud prominente, saepe demum fossam formante infundibuliformem, 0.3—0.2 mm latam, disco punctiformi, obscurato. Perithecium albidum aut pallidum, columella nulla. Sporae 8:nae, distichae, ellipsoideo-oblongae aut ellipsoideae, apicibus obtusis aut rotundatis, fumoso-fuscescentes, murales, cellulis sat numerosis, septis transversis 6—7, septis longitudinalibus saepe 3, long. 0.020 – 0.029, crass. 0.011—0.015 mm, membrana haud gelatinosa. — Facie externa *Th. terebratum* in memoriam revocans.

Mindanao, Subprov. Butuan, alt. 129 m, *Weber 1389*. Ad corticem arboris.

Subg. 2. **Brassia** (Mass.) Vain.

5. **Th. monobactrium** (Nyl.) Vain. *Ascidium* Nyl. Enum. Gén. Lich. 119, Exp. Lich. Nov. Cal. 53, Sert. Lich. Labuan 5; Cromb. On Coll. Lich. East Asia 53.

Thallus sat tenuis, verruculis hemisphaericis aut depresso-hemisphaericis, sat increbris aut sat crebris inspersus, pallido- aut glaucescenti-cinerascens, leviter nitidus, KHO non reagens, linea nigricante partim limitatus. Apothecia dispersa, verrucam formantia uberiformem aut hemisphaericam, 0.8—1.5 mm latam, increbre verruculoso-inaequalem, basi abruptam aut rarius constrictam aut basin versus sensim dilatatam (n. 15078), apice convexam aut raro conoideam aut leviter impressam (14649), margine ostiolari elevato, integro, leviter incrassato, ostiolo orbiculari, circ. 0.2—0.15 mm lato, obturato. Perithecium in labiis fusco-fuligineum, circ. 0.120—0.050 mm crassum, in basi apothecii tenuissimum aut deficiens, columellam formans centralem, fuligineam, apice albidam. Amphitecium strato interiore fulvescente aut rufo-fulvescente, cellulas

corticis continente, extus strato thallino parte interiore albida aut partim rosea obducto. Hymenium circ. 0.46—0.36 mm crassum. Sporae oblongae, apicibus obtusis aut rotundatis, decolores, murales, cellulis numerosissimis, solitariae aut raro binae, long. 0.268– 0.130, crass. 0.043—0.020 mm, jodo violascentes, membrana tenui, haud gelatinosa. — In specimine orig. *Asc. monobactrii* Nyl. e Labuan (22429 in herb. Nyl.) verrucae apotheciorum pro parte majores (—2 mm diametro), basi vulgo demum constrictae, apice haud depressae, margine ostiolari prominente, intus albae, thallus verrucosus. In var. *meizobactria* Nyl. secund. specim. orig. n. 22430 e Malacca in herb. Nyl. verrucae apotheciorum apice bene depressae, margine ostiolari haud prominente. His notis ei similis est var. *subgranulata* Nyl. (e Labuan n. 22428 in herb. Nyl.).

Var. **endoleuca** Vain.

Thallus et verrucae apotheciorum strato medullari albo, verrucae apice haud depressae, margine ostiolari elevato. Sporae solitariae, long. 0.121—0.242, crass. 0.025—0.043 mm, aut raro in eodem apothecio binae et spora inferiore minore, long. 0.098, crass. 0.020 mm.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14649*, *14957* pr. p., *15050*. Ad corticem arborum n. 14644, 14826, 15041.

Var. **endorhoda** Vain.

Stratum medullare thalli et apotheciorum maculis roseis. Verrucae apotheciorum apice haud depressae, margine ostiolari elevato. Sporae solitariae, long. 0.146—0.268, crass. 0.020—0.034 mm.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15078*. Ad corticem arboris n. 15074.

Var. **geminipara** Vain.

Thallus intus albus. Verrucae apotheciorum basi abruptae, strato medullari albo, apice haud depressae, margine ostiolari haud aut raro leviter elevato. Sporae binae, murales, decolores, jodo violascentes, long. circ. 0.130, crass. 0.034 mm. Parathecium fusco-fuli-

gineum, tenue. Habitu similis *Th. monobactrio*, quare non sit autonoma species.

Luzon, Sorsogon, Irosin, *Elmer 14813* pr. p. Ad corticem arboris n. 14806.

6. **Th. marginans** Vain. sp. nov.

Thallus modice incrassatus, verruculis subhemisphaericis, saepe sat crebris, circ. 0.25 mm latis inspersus, impure substramineoalbido-glaucescens, leviter nitidus, KHO fuscescens, linea hypothallina nigricante partim limitatus. Apothecia dispersa aut interdum 2 confluentia, verrucam formantia 2.5—3 (—1.4) mm latam, verruculoso-inaequalem, basi sat praeruptam, circ. 0,5—1 mm altam, margine ostiolari leviter prominente, modice incrassato, diam. 0.4—0.8 mm, impure subalbido, integro, ostiolo orbiculari, circ. 0.2—0.6 mm lato, obturato. Perithecium laterale, fuligineum, in basi apothecii deficiens, at columellam formans centralem, subconicam, basim versus dilatatam, fuligineam, apice subalbidam. Amphithecium intus pallidum, in KHO purpureum. Epithecium decoloratum. Sporae 8:nae, distichae aut monostichae, decolores, jodo violascentes, oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, septis transversis circ. 11, long. 0.050—0.078, crass. 0,014—0.020 mm, membrana haud gelatinosa. — Affine *Th. siamensi* Vain., quod thallo KHO rubescente, annulo ostiolari tenui subindistinctoque et sporis haud 8:nis ab eo differt.

Biliran, *Bur. Sci. 18420, 18422 R. C. McGregor.* Ad corticem arborum.

7. **Th. oculatum** Vain. sp. nov.

Thallus sat tenuis, sat laevigatus aut leviter inaequalis, pallido-glaucescens aut partim pallidus, leviter nitidus, medulla alba, KHO non reagens, hypothallo indistincto. Apothecia dispersa aut partim aggregata, verrucam formantia hemisphaericam, laevigatam aut raro leviter verrucosam, basi abruptam aut rarius demum leviter constrictam, pallidam aut thallo concolorem, circ. 1 (0.5—1.4) mm latam, apice convexam ant rarius demum leviter depressam, ostiolo 0.25—0.5 mm lato, aperto, orbiculari aut rarius leviter irre-

gulari, margine ostiolari haud elevato, integro. Perithecium in labiis superne fuscofuligineum, inferne aurantiacum, amphithecio intus aurantiaco, cellulas substrati continente, KHO violascente, et extus thallino, stratum medullarem albidum, KHO non reagentem, continente obductum. Hypothecium superne decoloratum, inferne tenuiter fulvescens et KHO violascens, columella nulla. Hymenium circ. 0.1 mm crassum. Epithecium fulvo-nigricans vel sordide fulvescens, KHO non reagens. Sporae 8:nae, monostichae aut distichae, decolores, subglobosae aut ellipsoideae, murales, cellulis paucis, septis transversis 3 aut raro 4, subglobosae 3-cellulosae, jodo violascentes, long. 0.008—0.018, crass. 0.007—0.010 mm, membrana tenui, haud gelatinosa. — Proxime affine *Th. intervallato* Nyl., quod thallo et apotheciis intus passim rubescentibus, thallo KHO ochraceo et sporis muralibus, transversim 3—5-septatis ab eo differt. Habitu *Th. cinchonarum* in memoriam revocat.

Polillo, *Bur. Sci. 9082 Robinson.* Ad corticem arboris.

8. **Th. polillense** Vain. sp. nov.

Thallus leviter incrassatus, continuus, leviter verruculoso-inaequalis, stramineo-glaucescens, nitidus, KHO non reagens, medulla alba, hypothallo indistincto. Apothecia dispersa, verrucam formantia hemisphaericam, 1—0.3 mm latam, vulgo laevigatam, thallo concolorem, basim versus sensim dilatatam, margine ostiolari haud aut rarius leviter elevato, integro, saepe anguste substramineo, ostiolo orbiculari, 0.5—0.2 mm lato, disco profunde impresso, subalbido. Perithecium laterale, fuscofuligineum. Columella circ. 0.320 mm crassa, centro et apicem versus albida, ceterum fuliginea. Hymenium 0.060—0.080 mm crassum. Epithecium leviter obscuratum. Sporae 8:nae, distichae aut monostichae, decolores, fusiformes aut oblongae, apicibus sat acutis aut obtusis, 3—5-septatae, loculis lenticularibus, loculo uno mediano saepe demum bicelluloso, jodo violascentes, long. 0.012—0.018, crass. 0.004—0.009 mm, membrana sat tenui, haud gelatinosa. — Habitu *Th. intervallatum* Nyl. (Syn. Lich. Cal. 36) in memoriam revocans eique affine, at

thallo intus albo, crebre grossiusque verrucoso et columella ab eo differens.

Polillo, *Bur. Sci. 9098 Robinson.* Ad corticem arboris.

9. **Th. biliranum** Vain. sp. nov.

Thallus tenuis, subcontinuus, partim leviter verruculoso-inaequalis, stramineo-glaucescens, nitidus, KHO non reagens, hypothallo indistincto. Apothecia sat dispersa, verrucam formantia hemisphaerico-depressam, 1.1—0.7 mm latam, verruculoso-inaequalem, basim versus sensim dilatatam aut demum sat praeruptam, thallo concolorem, vertice applanatam depressamve, ostiolo 0.3—0.2 mm lato, orbiculari, margine ostiolari haud aut levissime prominente, tenui, integro, haud discolore. Perithecium laterale, fuligineum, sat tenue, basi deficiens, at columellam formans centralem, brevem, sat crassam, parte superiore circ. 0.2 mm crassam, fuscofuligineam aut apice albidam. Amphithecium intus KHO non reagens. Sporae decolores, jodo violascentes, murales, long. circ. 0.036, crass. 0.013 mm (haud bene evolutae). — Affine *Th. stramineo* Vain., at sporis et ostiolis majoribus et amphithecio majore magisque verruculoso-inaequali ab eo recedens. Facie externa *Th. cinchonarum* (Fée) in memoriam revocans, amphithecio autem minus prominente et sporis omnino dissimilibus ab eo differens.

Biliran, *Bur. Sci. 18439 McGregor.* Ad corticem arboris.

10. **Th. stramineum** Vain. sp. nov.

Thallus modice incrassatus, verruculoso- et verrucoso-rugosus, continuus, stramineus aut glaucescenti-stramineus, nitidus, KHO non reagens, medulla albida, hypothallo indistincto. Apothecia numerosa, sat crebra, verrucam formantia hemisphaericam, 0.8—0.6 mm latam, laevigatam aut rarius leviter verrucosam, basim versus sensim dilatatam aut saepe abruptam, thallo concolorem, vertice convexam, aut tantum leviter prominentia, ostiolo circ. 0.15 (0.2—0.1) mm lato, orbiculari, margine ostiolari haud prominente, integro, haud discolore. Perithecium in labiis fuscofuligineum, basi

deficiens aut tenue. Columella fuliginea aut apice albida, parte superiore circ. 0.1 mm crassa. Epithecium decoloratum. Sporae 8:nae, decolores, oblongae, septis transversis 5—9, loculis mediis paucis septo longitudinali divisis, long. 0.020—0.029, crass. 0.007—0.009 mm, membrana haud gelatinosa, jodo violascentes. — *Th. subinalbescens* Nyl. et *Th. cinchonarum* (Fée) in memoriam revocans, at sporis ab iis differens.

Luzon, Subprov. Bataan, mons Mariveles, *Whitford 1086* pr. p. Ad corticem arboris.

11. **Th. sticticum** Vain. sp. nov.

Thallus sat tenuis, laevigatus, continuus, stramineo-pallidus, parum nitidus, KHO non reagens, hypothallo indistincto. Apothecia dispersa aut nonnulla confluentia, thallo immersa, orbicularia aut ellipsoidea, diam. 0.3—0.25 aut long. 0.7 mm, margine ostiolari elevato, tenui, integro, albido-granuloso, granulis e materia amorpha formatis, disco impresso, nigricante. Perithecium in summo margine fuscescens crassiusque, ceterum pallidum aut albidum tenueque, strato thallino, cellulas substrati continente obductum. Columella haud evoluta. Hymenium circ. 0.080 mm crassum. Epithecium fumoso-obscuratum aut partim decoloratum. Paraphyses simplices, gelatinosae. Sporae 8:nae, distichae, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis aut rotundatis, murales, cellulis haud numerosis, septis transversis 7, jodo lutescentes, long. 0.017—0.022, crass. 0.007—0.011 mm, membrana tenui, haud gelatinosa. Gonidia chroolepoidea. — Proximum est *Th. leucophthalmo* Nyl. (Syn. Lich. Nov. Cal. 39), quod thallo ei est consimile, at apotheciis majoribus et margine crassiore secund. specim. orig. ab eo differt. Intermedia sunt inter *Thelotrema* et *Graphidem*.

Luzon, Manila, *Merrill 8528*. Ad corticem *Hibisci tiliacei*.

12. **Th. leucocheilum** Vain. sp. nov.

Thallus sat tenuis, verruculoso-inaequalis, verruculis parum elevatis, sat crebris, continuus, albidocinereo-glaucescens, parum niti-

dus, KHO non reagens, hypothallo indistincto. Apothecia sat crebre aggregata, thallo immersa, margine ostiolari annulum formante tenuem, album, integrum, haud aut raro levissime prominentem, orbicularem, ostiolo 0.15—0.1 mm lato, disco impresso, nigro. Perithecium fulvescenti-pallidum, sat tenue, integrum. Columella subcylindrica, tenuis, crass. 0.08 mm, basin versus pallida, ceterum fuscescens aut apice anguste albida. Hymenium 0.12 mm crassum. Epithecium decoloratum. Sporae 8:nae, distichae aut monostichae, decolores, ellipsoideae aut oblongae, apicibus vulgo rotundatis, submurales, septis transversis 7, loculis mediis septo longitudinali divisis, jodo caerulescentes, long. 0.015—0.026, crass. 0.006—0.012 mm, membrana tenui, haud gelatinosa. — Huic proxime affinia sunt *Th. concretum* Fée et *Th. subconforme* Cromb., quae sporis et colore marginis ostiolaris leviter a *Th. leucocheilo* differunt.

Luzon, Sorsogon, Irosin, *Elmer 14907*. Ad corticem arboris.

13. **Th. butuanum** Vain. sp. nov.

Thallus sat tenuis, sat laevigatus, continuus, albidocinereo-glaucescens, nitidus, KHO non reagens, hypothallo indistincto. Apothecia sat crebra, haud aggregata, thallo immersa, margine ostiolari annulum formante tenuem, album, integrum, haud elevatum, orbicularem, ostiolo 0.2—0.1 mm lato, disco levissime aut parum impresso, fuscescente. Perithecium pallescens. Columella deficiens. Hymenium 0.085 mm crassum. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae aut ovoideo-oblongae, apicibus rotundatis, murales, cellulis haud numerosis, septis transversis 7—8, jodo haud reagentes, long. 0.021—0.026 (—0.017), crass. 0.007—0.010 mm, membrana tenui, haud gelatinosa. — Affine *Th. leucocheilo* et ei habitu simile, at apotheciis haud aggregatis et defectu columellae et reactione jodetica sporarum ab eo differt.

Mindanao, Subprov. Butuan, *Weber 1416* pr. p. Postea collectum est in Manila, subprov. Apayao, *Bur. Sci. 28347* pr. p. *Fénix*. Ad corticem arboris.

Subg. 3. **Phaeotrema** (Müll. Arg.) Vain.

Sect. 1. **Stromatotrema** Vain. Apothecia amphitheciis confluentia, pseudostromata formantia. — Ab hac sectione distinguendum est genus autonomum **Rhabdodiscus** Vain. (Fée in herb.), qui discis gyrosis aut hymeniis pluribus discretis excipulo communi immersis distinguitur. Ad subgen. **Rhabdotrema** Vain. (*Rhabdodisci*), cujus sporae sunt murales, fuscescentes, pertinent *Rh. auberianus* (Mont.), *Rh. metaphoricus* (Nyl.), *Rh. fissus* (Nyl.), *Rh. epitrypus* (Nyl.), *Rh. cubanus* (Tuck.); ad subg. **Sarcotrema** Vain., sporis fuscescentibus, transversim septatis, pertinent *Rh. glyphicus* (Nyl.), *Rh. anamorphoides* (Nyl.), *Rh. lirelliformis* (Tuck.); ad subg. **Rhabdocalia** Vain. pertinent *Rh. auberianoides* (Nyl.), *Rh. anamorphus* (Nyl.), *Rh. trachodes* (Nyl.), *Rh. latilabrus* (Tuck.), *Rh. leucotylius* (Nyl.), *Rh. actinotus* (Tuck.), *Rh. granulatulus* (Nyl.), *Rh. costaricensis* (Müll. Arg.), *Rh. viridialbus* (Krempelh.), quarum sporae decolores, transversim septatae sunt. **Tremothylium** Nyl. ad *Arthothelium* pertinet.

14. **Th. Elmeri** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus, laevigatus, late expansus, albido-glaucescens, opacus, KHO non reagens, hypothallo nullo distincto. Apothecia in pseudostromatibus crebre conferta. Pseudostromata rotundata aut ellipsoidea oblongave aut irregularia, long. circ. 4.5—1 mm, leviter prominentia, depressa planaque aut leviter convexa, primum thallo fere concoloria, demum fulvescenti-pallida, apothecia parvula numerosissima continentia. Perithecium laterale tenue, fulvescens aut pallido-fuscescens, KHO non reagens. Hypothecium superne pallidum, inferne fulvescens, columella nulla. Discus minutissimus, punctiformis, orbicularis, nigricans, haud impressus (in apotheciis poro instructis hymenium est evacuatum). Hymenium 0.055—0.060 mm crassum, jodo non reagens. Epithecium gymnocarpicum, pallidum aut decoloratum. Asci clavati, membrana apice leviter incrassata. Paraphyses simplices, increbre septatae, tubulis 0.001—0.0015 mm crassis, gelatinam haud abundantem percurrentibus. Sporae 8:nae, distichae, fuscescentes, oblongo-elongatae, apicibus obtusis, 7-septatae, raro 4-septatae, loculis lenticularibus, rectae, long. 0.018—0.021, crass. 0.005 mm, jodo non reagentes, membrana modice incrassata, haud gelatinosa. Gonidia ad Trentepohliam pertinentia, flava, cellulis concatenatis, ellipsoideis aut sub-

globosis, 0.007—0.014 mm crassis. — Affine est *Th. difformi* (Tuck.) Vain.

Luzon, Subpr. Sorsogon, Irosin, *Elmer 14841.* Ad corticem *Pandani* (n. 14839).

Sect. 2. **Haplotrema** Vain. Apothécia haud confluentia.

15. **Th. phaeospermoides** Vain. sp. nov.

Thallus vulgo sat crassus, crass. circ. 0.2—0.9 mm, saepe demum sat laxe affixus et e substrato bullato-elevatus, stramineo-glaucescens, opacus, KHO subolivaceo-fuscescens, hypothallo indistincto. Apothecia sat crebra, verrucam formantia modice aut leviter prominentem, 1.5—0.6 mm latam, basim versus vulgo sensim dilatatam, ostiolo 0.7—0.3 mm lato, bene foveolato, orbiculari aut interdum leviter irregulari, margine ostiolari haud prominente, thallo concolore. Perithecium laterale, fusco-fuligineum, tenue, basi apothecii deficiens. Columella centralis fuscofuliginea, apice subalbida, crassit. basi 0.140, apice 0.090 mm. Amphithecium thallinum. Epithecium decoloratum. Sporae 8:nae, monostichae, fuscescentes, primum decolores, fusiformi-oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus aut apicalibus paullo minoribus, long. 0.014—0.018, crass. 0.009—0.010 mm, membrana haud gelatinosa. — *Th. leucotrema* Nyl., Énum. Gén. Lich. p. 118 (Hue, Lich. Exot. p. 173), reactione KHO producta cum hac specie congruens, et *Th. phaeospermum* Nyl. (Lich. Ceyl., 1900, p. 18), thallo KHO rubescente ab ea differens, etiam sporis 3—5-septatis et thallo arcte adnato ab ea distinguuntur (sec. specim. orig.).

Luzon, Subprov. Rizal, mons Susong-Dalaga, *Bur. Sci. 29456 M. Ramos* et *G. Edaño.*

16. **Th. samaranum** Vain. sp. nov.

Thallus sat tenuis, laevigatus, albidus, opacus, KHO dilute impure flavescens, dein partim leviter rufescenti-rubescens, hypothallo fusconigro limitatus. Apothecia crebre numeroseque aggregata, acervulos difformes, haud prominentes formantia, thallo immersa,

ostiolo 0.1—0.05 mm lato, saepe foveolato, orbiculari aut leviter irregulari, punctillum nigrum formante, margine ostiolari haud prominente, thallo concolore. Hypothecium albidum. Epithecium fuscescens. Sporae 8:nae, distichae, fuscescentes, oblongae, apicibus obtusis, 3—5-septatae, loculis lenticularibus, long. 0.013—0.015, crass. 0.005 mm. — Proximum est *Th. picteano* (Müll. Arg. Lich. Vict. 276).

Samar, prope flumen Katubig, *Bur. Sci. 24931* pr. p. *Edaño*. Ad corticem arboris, una cum *Pyrenula samarana* Vain.

Subg. 4. **Ocellularia** (Spreng.) Vain.

Sect. 1. **Ascidium** (Fée) Müll. Arg. Excipulum verrucam subglobosam, basi constrictam, formans.

17. **Th. Curranii** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, continuus, verruculis hemisphaericis aut conoideis, circ. 0.2 (—0.25) mm latis, sparsis instructus, sordide aut pallido-subglaucescenti-albidus, nitidus, KHO non reagens, hypothallo nullo distincto. Apothecia vulgo dispersa, verrucam formantia depresso-subglobosam, 2.2—1.5 mm latam, verrucoso-inaequalem, basi bene constrictam, apice applanato aut leviter impresso, margine ostiolari saepe subalbido, haud aut raro levissime elevato, crasso, integro, ostiolo orbiculari, 0.25—0.4 mm lato, aperto, disco profunde impresso. Perithecium sat tenue, crass. 0.040—0.060 mm, latere albidum, basi fusconigrum, columella nulla. Amphithecium parte interiore sordide subfulvescens, parte exteriore albidum thallinumque, KHO parum reagens. Hymenium 0.4 mm crassum. Epithecium partim nigricans. Sporae binae, decolores aut demum dilute fumoso-obscuratae, oblongae, apicibus rotundatis, 11—15-septatae, loculis cylindrico-lenticularibus, jodo violascentes, long. 0.110—0.170, crass. 0.032—0.038 mm, membrana leviter incrassata, haud gelatinosa. Paraphyses simplices, gelatinosae. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis, 0.007—0.010 mm crassis. — Affine *Th. pertusariiformi* (Leight. Lich. Ceyl. 170), quod secund. specim. orig. n. 3922 in herb. Nyl. thallo

fumoso-obscurato, excipulo paullo minore, magis laevigato et perithecio fusco ab eo differt, at habitu ei valde consimile est.

Luzon, Subprov. Cagayan, *For. Bur. 16802 Curran.* Ad corticem arboris.

18. **Th. fallax** Vain. sp. nov.

Thallus crustaceus, sat tenuis, continuus, verruculis hemisphaericis aut irregularibus, 0.25—0.15 mm latis, sparsis aut sat crebris instructus, albidus aut sordide albicans, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia vulgo dispersa, verrucam formantia uberiformem, 0.9—0.7 mm latam, laevigatam aut rarius leviter verruculoso-inaequalem, basi abruptam aut leviter constrictam, thallo concolorem, apice anguste impresso, margine ostiolari haud elevato, integro, ostiolo punctiformi, minutissimo, orbiculari. Perithecium decoloratum, columella nulla. Sporae solitariae, decolores, fusiformi-oblongae, apicibus obtusis, pluriseptatae, loculis lenticularibus, jodo violascentes, long. 0.126—0.160, crass. 0.016—0.023 mm, membrana haud gelatinosa. — Facie externa *Pertusarias* in memoriam revocans. A *Th. domingensi* (Fée) verrucis apotheciorum minoribus et colore perithecii sporarumque differt.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6257.* Ad corticem arboris.

19. **Th. chrysostroma** Vain. sp. nov.

Thallus crustaceus, tenuis, leviter verruculoso-inaequalis aut partim sat laevigatus, continuus, albidus, sat opacus, medulla alba, KHO non aut parum reagens, linea hypothallina nigricante partim limitatus. Apothècia sparsa, verrucam formantia depressam aut hemisphaericam, 0.65—0.40 mm latam, laevigatam, thallo concolorem, basi abruptam aut demum leviter constrictam, apice vulgo leviter impressam, margine ostiolari haud elevato, integro, ostiolo 0.15—0.1 mm lato, orbiculari, disco impresso, nigro. Perithecium fuligineum, basi deficiens, columella fuliginea, tenui. Amphithecium intus aurantiaco-fulvescens, KHO intense rubescens. Sporae 8:nae, distichae, decolores, oblongae, 3—5-septatae, loculis lenti-

cularibus, jodo violascentes, long. 0.016—0.23, crass. 0.006—0.008 mm, membrana haud gelatinosa. — Facie externa *Th. Bahianum* Ach. in memoriam revocans.

Borneo, Sarawak, Kuching, *Moulton* litt. *a*. Ad corticem *Urandrae bracteatae*.

Sect. 2. **Euocellularia** Müll. Arg. Excipulum verrucam basi haud constrictam formans aut haud elevatum. Apothecia haud confluentia.

20. **Th. bataanum** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, leviter inaequalis, continuus, stramineo-glaucescens, opacus, medulla alba, KHO non reagens, hypothallo indistincto. Apothecia dispersa, verrucam formantia hemisphaericam aut depressam, 0.8—1.5 mm latam, strato obductam thallo consimili, basin versus sensim dilatatam aut demum sat abruptam, apice leviter impressam, margine ostiolari haud elevato, integro, ostiolo orbiculari, 0.001—0.0015 mm lato, disco impresso, nigro. Perithecium latere fusco-fuligineum, basi deficiens, at columella fuliginea, basin versus dilatata, superne tenui instructum. Epithecium decoloratum. Sporae solitariae, decolores, fusiformes, apicibus obtusis, septis transversalibus circ. 18—25, loculis sublenticularibus, jodo violascentes, long. 0.130—0.260, crass. 0.038—0.040 mm, strato tenui gelatinoso indutae.

Luzon, Subprov. Bataan, Limay, *Robinson* (cum n. *6197*). Ad corticem arboris.

21. **Th. lepadinoides** Leight. Lich. Amaz. And. (1866) 447; Nyl. Prodr. Nov.-Granat. Addit. (1867) 548.

Var. **glaucodea** Vain.

Thallus sat tenuis, substrato arcte adnatus, leviter verruculoso-inaequalis aut sat laevigatus, stramineo-glaucescens, bene nitidus, KHO demum rufescens, hypothallo indistincto. Apothecia sat dispersa, verrucam formantia circ. 0.25 mm altam, 1—0.6 mm latam, basim versus sensim dilatatam, ostiolo circ. 0.5—0.25 mm lato, bene foveolato, orbiculari, margine ostiolari sat acuto, haud pro-

minente, subintegro, thallo concolore. Perithecium laterale fusco-fuligineum, sat tenue, basi apothecii deficiens. Columella centralis fuscofuliginea, apice subalbida, sat tenuis. Epithecium decoloratum. Sporae 8:nae, decolores, fusiformi-elongatae, apicibus sat acutis aut obtusis, septis numerosis, jodo violascentes, long. circ. 0.058, crass. 0.009 mm, membrana haud gelatinosa. — Proxime affine est *Th. lepadinoidi* Leight. (Lich. Amaz. And., 1866, p. 447, Nyl. Prodr. Nov. Granat. Addit., 1867, p. 548), quod sec. specim. orig. in herb. Nyl. thallo pallido-olivaceo, KHO intense rufo-fuscescente, sat opaco ab eo differt et ob distributionem aliam forsan ut diversa species habendum sit.

Biliran, *Bur. Sci. 18424 McGregor.* Ad corticem arboris.

22. **Th. apayoënse** Vain. sp. nov.

Thallus sat crassus, crassit. 0.2—0.5 mm, saepe demum sat laxe affixus et partim e substrato elevatus, leviter verruculoso-inaequalis, stramineo-glaucescens, leviter nitidus, KHO leviter olivaceus sive subfuscescens, hypothallo nigricante partim limitatus. Apothecia sat crebra, verrucam formantia leviter prominentem, 1.8—0,5 mm latam, basim versus sensim dilatatam, ostiolo 0.6—0.3 mm lato, bene foveolato, orbiculari, margine ostiolari obtuso, haud prominente, saepe zeorino et parte paratheciali cinereopallida ex amphithecio denudata. Perithecium laterale albidum, tenue, columella centrali sat tenui, albida, maculae tenui fuligineae in basi apothecii affixa. Sporae 8:nae, decolores, fusiformi-elongatae, apicibus obtusis, septis transversis 16—28, jodo violascentes, long. 0.038—0.110, crass. 0.009—0.012 mm. — Affine *Th. lepadinoidi* Leight., thallo crassiore, parathecio albido et margine ostiolari vulgo duplice ab eo differens.

Luzon, Subprov. Apayao, *Bur. Sci. 28347 Fénix.* Ad corticem arboris.

23. **Th. cinereoglaucescens** Vain. sp. nov.

Thallus crustaceus, tenuis, leviter verruculoso-inaequalis, continuus, cinereo-glaucescens, nitidus, medulla alba, KHO non

reagens, hypothallo indistincto. Apothecia dispersa, verrucam formantia parum elevatam aut depresso-hemisphaericam, 0.5—0.3 mm latam, laevigatam, thallo concolorem aut apicem versus pallidam, basin versus sensim dilatatam, apice convexam, margine ostiolari haud elevato, integro, ostiolo orbiculari, 0.15—0.1 mm lato, disco impresso. Perithecium latere fulvescenti-pallidum, intus et subtus anguste pallidum. Columella sat tenuis, apicem versus fuscescens aut summo apice albido. Hymenium 0.140 mm crassum, epithecio partim obscurato. Sporae 8:nae, distichae, decolores, oblongae, 4—5-septatae, loculis lenticularibus, jodo violascentes, long. 0.018—0.022, crass. 0.008—0.009 mm, membrana leviter incrassata, haud gelatinosa. — Proxime affine est *Th. calvescenti* Fée.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14957* pr. p. Ad corticem arboris (n. 14826).

24. **Th. homothecium** Vain. sp. nov.

Thallus crustaceus, tenuis, sat laevigatus, cinereo-glaucescens, leviter nitidus, medulla alba, KHO non reagens, hypothallo indistincto. Apothecia numerosa, sat crebra aut sat dispersa, verrucam formantia depresso-hemisphaericam, 0.6—0.3 latam, laevigatam, thallo concolorem, basim versus sensim dilatatam, apice convexam, margine ostiolari haud elevato, integro, raro anguste pallido-fuscescente, ostiolo orbiculari, 0.1—0.05 mm lato, disco fuscescente, parum aut demum bene impresso. Perithecium pallidum, columella nulla. Hymenium circ. 0.100 mm crassum. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae, apicibus rotundatis, 5—6-septatae, loculis lenticularibus, jodo violascentes, long. 0.017—0.022, crass. 0.007—0.009 mm, membrana sat tenui, haud gelatinosa. — Affine *Th. calvescenti* Fée et speciei praecedenti, cui facie externa simile est.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14852* pr. p. Ad corticem arboris (n. 14850).

25. **Th. porinoides** Mont. et v. d. Bosch Syll. Lich. (1856) 362 (sec. specim. orig. in herb. Nyl.); Nyl. Lich. Jap. (1890) 58. *Th. bicavatum* Nyl. Fl. 1864 p. 269, Lich. Nov. Zel. (1888) 75.

Thallus crustaceus, tenuis aut leviter incrassatus, continuus aut sat dispersus, sat laevigatus aut leviter verruculoso-inaequalis, albidus, parum aut leviter nitidus, nec KHO, nec jodo reagens, medulla alba, hypothallo nigricante in interstitiis et ad ambitum thalli saepe conspicuo. Apothecia partim sat crebra, verrucam formantia hemisphaericam aut depresso-hemisphaericam, 0.9—0.5 mm latam, laevigatam, thallo concolorem, basim versus sensim dilatatam aut demum abruptam, margine ostiolari duplice, margine exteriore integro, haud prominente, ab amphithecio formato, apertura 0.35—0.2 mm lata, margine interiore vulgo impresso, fissura a margine exteriore disjuncto, tenui, saepe leviter crenulato, pallescente aut albido, a perithecio formato, ostiolo minutissimo, punctiformi, orbiculari Perithecium albidum aut pallidum, columella nulla aut rudimentari et in medio hymenii e fasciculis hypharum formata irregulariter ramosarum, apice obscuratarum. Hymenium circ. 0.080—0.170 mm crassum. Epithecium decoloratum. Sporae 8:nae aut 4:nae, decolores, oblongae aut ovoideo-oblongae, apicibus obtusis aut altero apice rotundato, septis transversalibus 8—12, raro —20 (in n. 15078), jodo violascentes (in n. 5403 haud reagentes), membrana sat crassa, haud aut parum gelatinosa, long. 0.032—0.064, crass. 0.007—0.009 mm aut long. 0.060—0.100, crass. 0.011—0.015 mm (in n. 15078) aut long. circ. 0.020, crass. 0.006 mm (in n. 5403). — Variatio sit plantae americanae *Th. bicinctuli* Nyl. Enum. Gén. Lich. (1857) 118 (*Th. subtile* Tuck. Suppl. I, 1858, p. 426; *Th. collativum* Krempelh. Lich. Becc. Borneo 20, secund. specim. orig. in herb. Nyl.). *Th. porinoides* Mont. et v. d. Bosch in Lich. Jav. (1855) p. 484, ed. 2 (1856) p. 58, sporis muralibus, septis longitudinalibus 3—4 partitis, false descriptum est (rite in Syll. Lich. p. 363).

Luzon, Sorsogon, Irosin, *Elmer 14852* pr. p., *14927*, *14951* pr. p., *14952*, *14954*, *15078* pr. p., *15081* pr. p. Insula Ubian, *Merrill 5403* pr. p. Ad corticem arborum n. 14922, 14817, 15074, cet.

26. **Th. concolor** (Mey. et Flot.) Vain. *Ocellularia* Müll. Arg. Rev. Lich. Mey. (Jahrb. K. Bot. Gart. Berl. II 1883) 318.

„Apothecia discreto-subconferta vel in eadem prominentia thallina geminata vel ternata, prominentiae basi late pyramidali-dilatatae, osculum integrum acutiusculum, 0.2—0.4 mm latum, intus anguste nigro-marginatum; discus planus, depressus, atro-fuscus; lamina praeter basin olivaceam undique hyalina, vulgo magna pro parte abortiva et fusco-nigrata (= columella instructa); sporae hyalinae, 0.019—0.023 mm longae, 0.006—0.007 mm latae, utrinque obtusae, lentiformi-7-loculares, loculi indivisi. A proximo *Th. cavato* Ach. differt thallo albido, laevigato et verrucis thallinis basi dilatatis."

Manila, *Gaudichaud.*

27. **Th. zamboangense** Vain. sp. nov.

Thallus crustaceus, modice incrassatus, continuus aut demum rimoso-diffractus, sat laevigatus, sordide albidus, opacus, KHO non reagens, medulla alba, linea hypothallina nigricante limitatus. Apothecia numerosissima, crebra, parum aut leviter prominentia, prominentiis 1—0.7 mm latis, basim versus sensim dilatatis, apice late leviter impressis, thallo concoloribus, sat laevigatis, margine ostiolari haud elevato, integro, ostiolo orbiculari, 0.25—0.15 mm lato, disco nigro, leviter aut haud impresso. Perithecium laterale fuligineum, 0.050—0.060 mm crassum, strato tenui, fulvescente, cellulas substrati continente et extus strato thallino obductum. Columella circ. 0.24 mm lata, fuliginea. Hymenium 0.080—0.100 mm crassum. Epithecium decoloratum. Sporae 8:nae, distichae aut monostichae, decolores, fusiformes, apicibus obtusis aut sat acutis, 8-loculares, loculis lenticularibus, jodo violascentes, long. 0.017—0.028, crass. 0.007—0.008 mm, membrana tenui, haud gelatinosa.

Mindanao, Distr. Zamboanga, *Merrill 8342.* Ad corticem arboris.

28. **Th. emergens** Vain. sp. nov.

Thallus sat tenuis, continuus, sat laevigatus, glaucescens, nitidus, KHO non reagens, medulla alba, hypothallo indistincto. Apothecia partim crebra, leviter aut parum prominentia, prominentiis

0.5—0.4 mm latis, thallo concoloribus, margine ostiolari haud aut leviter prominente, integro, anguste subalbido, ostiolo vulgo leviter anguloso-irregulari, circ. 0.3—0.15 mm lato, disco leviter aut bene impresso, livido aut fuscescente. Perithecium albidum, in labiis strato thallino obductum. Columella nulla. Hymenium circ. 0.090 mm crassum. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis aut obtusis, 5-septatae, raro 4-septatae, loculis lenticularibus, saepe partim oblique dispositis, jodo violascentes, long. 0.012—0.018, crass. 0.004—0.005 mm, membrana haud gelatinosa. — Habitu simile *Th. emersello* (Müll. Arg.) Vain. Catal. Welw. Afr. Pl. Vol. II P. 2 Lich. 429, at sporis irregulariter septatis et defectu columellae ab eo differens.

Mindanao, Subprov. Butuan, *Weber 1416*. Ad corticem arboris.

29. **Th. terebratum** Ach. (Müll. Arg. Graph. Féean. 7).

Var. **abbreviata** Vain. Lich. Bras. Exs. (1892) n. 1551.

Perithecium laterale fuligineum. Columella fuliginea, circ. 0.050 mm crassa. Sporae 5—7-septatae, decolores, jodo violascentes, long. 0.016—0.020, crass. 0.006—0.007 mm.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17178 Robinson*. Ad corticem arboris. Forma huic proxima collecta in Biliran, *Bur. Sci. 18420* pr. p. *McGregor*.

Sect. 3. **Glyphiditrema** Vain. Apothecia excipulis confluentibus.

30. **Th. confluens** Vain. sp. nov.

Thallus sat tenuis, continuus, sat laevigatus, glaucescenti-pallidostramineus, sat opacus aut parum nitidus, KHO non reagens, linea hypothallina nigricante parce limitatus. Apothecia pseudostromata formantia irregularia, plana, subgranulosa, vulgo leviter prominentia, discos numerosos aut paucos continentia, aut raro partim simplicia, rotundata aut irregularia, diam. circ. 0.4—0.7 mm, margine ostiolari a perithecio formato, vulgo leviter prominente, saepe irregulariter verruculoso-crenulato et subgranuloso, albo, opaco, disco haud aut leviter impresso, rotundato aut irregulari, 0.1—

0.15 mm lato, nigricante aut livido-fuscescente. Perithecium albidum. Columella nulla. Hymenium 0.035—0.040 mm crassum. Epithecium fumoso-obscuratum. Paraphyses simplices, gelatinosae. Sporae 8:nae, decolores, oblongae, apicibus rotundatis, 3-septatae, loculis lenticularibus, jodo violascentibus, long. 0.015—0.016, crass. 0.006—0.007 mm, membrana haud gelatinosa. Gonidia flavescentia, ad Trentepohliam pertinentia, cellulis concatenatis, long. 0.010—0.020, crass. 0.005—0.007 mm, membrana sat tenui. — Habitu subsimile est *Th. difformi* (Tuck.) Vain. (Tuck. Obs. Lich. 1864 p. 269), quod autem apotheciis saepe paullo majoribus, minus confluentibus et sporis fuscescentibus ab eo differt. *Th. leucastrum* Tuck., l. c., diversa est species, quae ab his distinguitur apotheciis majoribus, simplicibus, margine demum fisso, membranaceo-lobato (n. 22662 in herb. Nyl.).

Luzon, Sorsogon, Irosin, *Elmer 14641* pr. p. Ad corticem arboris n. 14623.

3. **Gyrostomum** Fr.

1, **G. scyphuliferum** (Ach.) Fr. Vain. Étud. Lich. Brés. II p. 86.

Negros, Bago, Hacienda Louisiana, *Merrill 6793*. Ad corticem *Pithecolobii dulcis*.

B. HYSTERIEAE.

Trib. 1. GRAPHIDEAE

1. **Graphis** (Adans.) Nyl.

Subg. 1. **Phaeographina** (Müll. Arg.) Vain.

Sect. 1. **Phariona** (Mass.) Vain.

Syn. *Phariona* Mass. Catagr. Graph. Bras. (1861) 679. *Pliariona* Mass. Esam. Comp. Lich. (1860) p. 37 (errat. typogr.). *Phaegr.* sect. *Chromogramma* Müll. Arg., Lich. Beitr. (1881) n. 483.

1. **Gr. Montagnei** V. d. Bosch subsp. ***Gr. deducta** (Nyl.) Vain. Cat. Welw. Afr. Pl. Lich. (1901) 436.

Thallus albidus aut albido-glaucescens, partim KHO rubescens. Perithecium integrum, purpureo-fuligineum, KHO olivaceo-fuligi-

neum, amphithecio thallino, KHO rubescente, obductum. Epithecium purpureum, KHO aeruginosum. Apothecia disco purpureo, demum dilatato. Sporae solitariae, murales, diu decolores, demum dilute obscuratae, long. circ. 0.100—0.120, crass. 0.023—0.040 mm.

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7978*, *7989*; Subprov. Sorsogon, Irosin, *Elmer 14961* pr. p. Ad corticem arborum.

Sect. 2. **Chromodiscus** Müll. Arg.

2. **Gr. isidiosa** Vain. sp. nov.

Thallus sat tenuis aut modice incrassatus, glaucescenti-albidus aut demum partim rubescenti-maculatus, nitidus, KHO fulvescens deindeque rubescens et crystallos rubros aciculares formans, sat laevigatus aut partim leviter verruculoso-inaequalis, isidiis instructus sparsis aut partim aggregatis, circ. 1—0.3 mm longis, 0.3—0.25 mm crassis, subcylindricis, simplicibus aut raro furcatis, apice saepe lividis aut obscuratis, intus albis aut miniatis, hypothallo indistincto. Apothecia saepe sat crebra aut aggregata, elongata aut parce etiam ellipsoidea rotundatave, long. 5—1.5 (—0.3), lat. 0.5—0.25 mm, saepe flexuosa curvatave, simplicia aut parce ramosa, leviter elevata, basi demum leviter constricta, apicibus vulgo demum rotundatis. Perithecium laterale tenue, rubricosum aut albidum et maculis rubris instructum, labiis diu conniventibus clausisque, demum late apertis patentibusque, tenuibus aut sat tenuibus, amphithecio thallino tenui obductis, saepe sulca una obsolete striatulis. Hypothecium modice incrassatum, pallidum aut fulvum aut partim albidum, basin versus granulis vel maculis rubris inspersum. Discus demum planus, caesiolividus, pruinosus. Hymenium 0.100—0.070 mm crassum. Epithecium sublividum aut cinereopurpureum aut rubricosum aut rufescens, KHO partim subolivaceum. Sporae 8:nae, monostichae aut raro distichae, fumosae aut fuscescentes, ellipsoideae aut globosae, apicibus rotundatis, submurales, septis transversis 1—2, loculis 1—3 demum vulgo septo uno longitudinali, raro septis 2 divisis, long. 0.008—0.017, crass. 0.005—0.008 mm, membrana haud gelatinosa.

Luzon, Subprov. Lepanto, mons Data, alt. 2250 m, *Merrill 4887*; Subprov. Benguet, Pauai, alt. 2100 m, *Bur. Sci. 8614 McGregor*, *Merrill 6647*; Subprov. Ifugao, mons Polis, *Bur. Sci. 20359 McGregor*. Ad corticem arborum.

Sect. 3. **Diploloma** Müll. Arg.

3. **Gr. perrigida** Vain. sp. nov.

Thallus sat tenuis, partim leviter verruculoso-inaequalis, glaucoalbido- et olivaceopallido-variegatus, sat opacus, KHO aurantiaco-fulvescens aut rufescens, hypothallo indistincto. Apothecia sparsa aut sat approximata, vulgo elongata, long. 8—2 (—1) mm, lat. 0.5—0.55 mm, saepe flexuosa curvatave, simplicia aut rarius parce ramosa, bene elevata, basi leviter constricta, apicibus obtusis. Perithecium fuligineum, integrum, labiis conniventibus clausisque, laevigatis, strato thallino obductis tenui, inferne gonidia continente, superne cartilagineo, 0.026—0.016 mm crasso, extus cinereis. Discus rimaeformis. Hymenium parum resinosum. Epithecium sordide aut fumose pallidum. Sporae 8:nae (aut rarius 2:nae), distichae, diu decolores, demum fumosae, jodo dilute purpureae, oblongae, apicibus rotundatis aut rotundato-obtusis, murales, seribus transversis cellularum 14—21, rectae aut leviter curvatae, long. 50—90, crass. 0.016—0.024 mm, membrana haud gelatinosa, cellulis numerosissimis.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14639* pr. p. Ad corticem arboris n. 14623.

4. **Gr. commaculans** Vain. sp. nov.

Thallus sat tenuis, verruculis minutissimis inspersus, pallidus, nitidus, KHO dilute roseus. Apothecia crebre aggregata, long. 4—1 mm, lat. 0.3 mm, thallo immersa, vulgo flexuosa curvatave, varie ramosa, apicibus obtusis. Perithecium fuligineum, integrum, labiis conniventibus, clausis, laevigatis, strato thallino tenui obductis aut superne caesiopruinosis. Discus rimaeformis, pruinosus. Sporae 8:nae, distichae, fumoso-fuscescentes, oblongae, apicibus rotundatis, submurales, seriebus transversis cellularum vulgo 7 (6—8), loculis nonnullis mediis septo uno longitudinali divisis, long. 0.026

—0.032, crass. 0.011—0.014 mm, membrana haud gelatinosa. Epithecium decoloratum. — Apotheciis *Gr. symplectam* Nyl. in memoriam revocans.

Luzon, Subprov. Sorsogon, Irosin (parce cum n. *14639*), *Elmer*. Ad corticem arboris n. 14620.

Sect. 4. **Thecaria** (Fée) Vain.

5. **Gr. quassiaecola** (Fée) Vain. *Phaeographina* Müll. Arg. Graph. Féean. 47. *Gr. exserta* Nyl. Syn. Lich. Cal. 73. *Gr. pyelodes* Wils. Bailey Contr. Queensl. Fl. n. 7 p. 32 (Müll. Arg. Lich. Exot. II 133). *Gr. grisea* Nyl. Énum. Gén. Lich. 129, Lich. Ceyl. 22; Hue Lich. Exot. 246 (secund. specim. orig.).

Perithecium fuligineum, integrum, basi bene incrassatum, labiis primum conniventibus, demum late apertis, laevigatis, modice incrassatis, strato thallino tenui omnino obductis. Discus caesiopruinosus. Sporae 8:nae, fumoso-fuscescentes, murales, cellulis numerosissimis, long. circ. 0.070—0.074, crass. 0.018—0.024 mm, strato gelatinoso 0.004 mm crasso, decolore indutae.

Luzon, Subprov. Nueva Vizcaya, prope Dupax, *Bur. Sci. 14306 McGregor;* Subprov. Sorsogon, Irosin, *Elmer 14641* pr. p. Ad corticem arboris n. 14623, cet.

6. **Gr. exsertissima** Vain. sp. nov.

Thallus tenuis, laevigatus, albido-pallescens aut cinereo-glaucescens, leviter nitidus, KHO parum reagens, hypothallo indistincto. Apothecia sparsa, vulgo elongata, long. 10—1, lat. 1—0.5 mm, leviter flexuosa aut sat recta, simplicia aut raro furcata, apicibus rotundatis aut obtusis, bene elevata, basi demum bene constricta. Perithecium fuligineum, integrum, basi bene incrassatum, labiis primum conniventibus, dein mox apertis, laevigatis, strato thallino tenui omnino obductis, modice incrassatis. Discus demum bene dilatatus, cinereoalbido-pruinosus. Epithecium pallidum. Sporae solitariae, diu decolores, demum obscuratae aut fumoso-fuscescentes, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. circ. 0.087—0.100, crass. 0.022—0.026 mm. — Tantum sporis solitariis majoribusque a *Gr. quassiaecola* differt.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7933*; Subprov. Nueva Vizcaya, prope Dupax, *Bur. Sci. 14312 McGregor*; Subprov. Sorsogon, Irosin, *Elmer 14400*. Ad corticem arboris n. 14395 ceterarumque arborum.

7. **Gr. stramineoglauca** Vain. sp. nov.

Thallus modice incrassatus, crebre verruculoso-rugulosus, stramineo-glaucescens, leviter nitidus, KHO dilute roseus, hypothallo indistincto. Apothecia sparsa aut aggregata, long. 2.5—0.7, lat. 0.5—0.4 mm, saepe leviter curvata, simplicia aut furcata aut substellato-ramosa, apicibus vulgo obtusis, leviter prominentia, basim versus sensim dilatata. Perithecium fuligineum, integrum, labiis conniventibus, demum anguste hiantibus, haud striatis, strato thallino, partim etiam verruculoso obductis, modice incrassatis. Discus rimaeformis, demum passim conspicuus, impressus, nigricans. Hymenium resinoso-guttulosum. Epithecium dilute fuscescens. Sporae 4:nae, fuscescentes, ellipsoideae aut oblongae, apicibus rotundatis, murales, cellulis numerosis, seriebus transversis cellularum 8—9, long. 0.045—0.052, crass. 0.018—0.025 mm, membrana haud gelatinosa. — *Gr. includentem* Vain. (Lich. Bras. Exs. n. 765) et *Gr. valvulescentem* Fée in memoriam revocans.

Luzon, Subprov. Laguna, *Forest. Bur. 13753* pr. min. p. *R. Rosenbluth*, *F. Tamesis*. Ad corticem arboris.

Sect. 5. **Epiloma** Müll. Arg.

8. **Gr. trabeata** Vain. sp. nov.

Thallus modice incrassatus, sat laevigatus aut leviter inaequalis, glaucescenti-pallidus, parum nitidus, KHO non reagens, hypothallo nigricante partim limitatus. Apothecia sparsa, long. 6—0.8, lat. 0.8—0.6 mm, bene elevata, latere abrupta aut basi demum leviter constricta, saepe leviter flexuosa curvatave, simplicia aut ramis 1—2, apicibus obtusis aut rotundatis. Perithecium fuligineum, dimidiatum basique deficiens, labiis conniventibus clausisque, laevigatis, 0.15—0.20 mm crassis, vertice 0.3—0.4 mm lato denudatis, ex amphithecio thallino latera perithecii obtegente, sat bene incrassato, haud aut parum prominentibus. Discus rimaeformis, in-

conspicuus. Hymenium circ. 0.22 mm crassum, resinoso guttulosum. Epithecium decoloratum aut pallidum. Sporae solitariae, primum decolores, demum fumoso-obscuratae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. 0.146—0.160, crass. 0.024—0.034 mm, membrana haud gelatinosa. — *Gr. epiloma* (Müll. Arg.) ab hac specie thallo hypophloeode et lirellis erumpentibus, utrinque acutis differt.

Luzon, Subprov. Benguet, Pauai, *Copeland 1360*. Ad corticem arbusti.

9. **Gr. Cumingii** Vain. *Lecanactis flexuosa* Nyl. Énum. Gén. Lich. 134, Lich. Jap. 113, Sert. Lich. Lab. 12. *Phaeographina* Müll. Arg. Thel. Graph. Kew 461. Haud *Gr. flexuosa* Fée in Bull. Soc. Bot. Fr. XXI 25, Krempelh. in Fl. 1876, 421 (Müll. Arg. l. c.).

Thallus tenuis, pallidus aut sordide albicans, „KHO subferruginascens. Apothecia elevata, long. 1.5—7, lat. 0.5 mm, simplicia aut bifurcata. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis, laevigatis, superne demum late denudatis, ad latera sat tenuiter thallino-obductis. Sporae 2—8:nae, fuscae, oblongae, murales, seriebus transversis cellularum 8—10, cellulis numerosis, long. 0.030—0.065, crass. 0.012—0.022 mm".

Manila, *Cuming 2159* (n. 7990 et 7981 in herb. Nyl.). Ad corticem arboris.

10. **Gr. caesiolabiata** Vain. sp. nov.

Thallus sat tenuis, leviter verruculoso-inaequalis, albido- vel cinereo-glaucescens, parum nitidus, KHO flavescens, dein rubescens, hypothallo nullo distincto. Apothecia sat crebra, long. circ. 4—1, lat. 0.5 -0.3 mm, simplicia aut leviter ramosa confluentiaque, saepe curvata flexuosave, apicibus saepe obtusis, modice emergentia, lateribus basim versus sensim dilatatis. Perithecium fuligineum, labiis conniventibus, anguste hiantibus, laevigatis, 0.18—0.20 mm crassis, amphithecio thallino sat tenui obductis, vertice demum anguste caesiopruinosis, basi tenuiter fuligineum. Discus rimaeformis, passim anguste conspicuus, caesiopruinosus. Epithecium pallidum aut decoloratum. Sporae 8:nae, fumoso-obscuratae, oblongae,

apicibus rotundatis, murales, septis transversis circ. 8—7, cellulis numerosis, long. 0.042—0.050, crass. 0.018—0.022 mm, membrana haud gelatinosa. — Est quasi variatio *Gr. caesiopruinosae* Fée labiis apotheciorum subclausis instructa, habitu similis *Gr. confluenti* (Mont.).

Luzon, Subprov. Laguna, *For. Bur. 13752 R. Rosenbluth* et *F. Tamesis*. Ad corticem arboris.

Sect. 6. **Eleutheroloma** Müll. Arg.

11. **Gr. exilior** Vain. sp. nov.

Thallus sat tenuis, leviter verruculoso-inaequalis, continuus, substramineo-glaucescens, leviter nitidus, substrato adnatus, KHO dilute subroseus, intus jodo non reagens, hypothallo indistincto. Apothecia vulgo sparsa, long. 5—0.7 mm, iteratim dichotome aut sympodialiter ramosa aut furcata aut simplicia, saepe flexuosa curvatave, apicibus acutis, thallo immersa et demum leviter emergentia. Perithecium fuscum, integrum, tenue, KHO non reagens, labiis strato thallino tenui obductis, demum leviter prominentibus, tenuibus, pallidis aut rarius thallo concoloribus, laevigatis, basi saepe sat abruptis, apertis. Discus apertus, planus, haud aut leviter impressus, fusconigricans, nudus, lat. 0.2—0.15 mm. Hymenium 0.070—0.080 mm crassum. Epithecium fuscum, KHO non reagens. Paraphyses crebre septatae, apice fusco-clavato. Sporae 8:nae, distichae, dilute fuscescentes, oblongae, apicibus acutis, submurales, septis transversis 3—5, loculis mediis 2 aut 1 septo uno divisis, long. 0.16—0.019, crass. 0.006—0.007 mm, membrana haud gelatinosa. — Intermedia est inter *Gr. exilem* Fée et *Gr. fulguratam* Fée (Müll. Arg. Gr. Féean. 50, 51) intermedia, perithecio fusco a priore et sporis majoribus a posteriore differens.

Luzon, Subprov. Bataan, mons Mariveles, *H. N. Whitford 1089*. Ad corticem *Shoreae polyspermatis* Merr. in silva.

Sect. 7. **Leucogramma** (Mass.) Vain.

12. **Gr. chlorocarpoides** Nyl. Lich. Jap. 113; Vain. Fl. Koh Chang Lich. 356.

In his speciminibus sporae binae, diu decolores, demum obscuratae fumosaeve, long. 0.046—0.096, crass. 0.020—0.026 mm, strato gelatinoso 0.004—0.008 mm crasso indutae.

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7981*; Subprov. Sorsogon, Irosin, *Elmer 14960*. Ad corticem arboris n. 14817.

Subg. 2. **Graphina** (Müll. Arg.) Vain.

Sect. 1. **Hololoma** Vain.

13. **Gr. pauaiensis** Vain. sp. nov.

Thallus sat crassus aut modice incrassatus, leviter verruculoso-inaequalis, albidus aut sordide albicans, opacus, KHO non reagens, hypothallo indistincto. Apothecia sparsa aut parcius aggregata, long. 7—1.5 mm, lat. 1.3—0.7 mm, bene aut modice elevata, basi demum leviter constricta, sat recta aut leviter curvata, simplicia aut raro ramis 1—2 instructa, apicibus obtusis aut rotundatis. Perithecium fuligineum, integrum, labiis conniventibus clausisque, 0.13—0.09 mm crassis, laevigatis aut demum stria una alba instructis, vertice haud prominente, 0.5—0.3 mm lato tenuiter obvelato pruinosove aut rarius detrito-denudato, latere amphithecio thallino sat crasso, leviter verruculoso aut laevigato obductum. Discus rimaeformis, inconspicuus. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, ovoideo-fusiformes aut ellipsoideae, altero apice sat acuto aut rarius apicibus ambobus rotundatis, murales, cellulis sat paucis, seriebus cellularum transversis 6—7, jodo violascentes, long. 0.026—0.016, crass. 0.007—0.011 mm, membrana haud gelatinosa. — Perithecio integro a *Gr. oryzoide* Leight. et *Gr. oryzaeformi* Fée et a posteriore etiam sporis minoribus differt.

Luzon, subprov. Benguet, Pauai, alt. 2100 m, *Bur. Sci. 8650 McGregor*. Ad corticem arboris.

14. **Gr. Elmeri** Vain. sp. nov.

Thallus modice incrassatus aut sat tenuis, leviter verruculoso-inaequalis, cinereo-glaucescens, leviter nitidus, KHO leviter flavescens, hypothallo nigricante partim limitatus. Apothecia sat

crebra, long. 5—0.5, lat. 0.7—0.4 mm, modice elevata, latere abrupta, vulgo sat recta, simplicia, apicibus obtusis aut rotundatis. Perithecium fuligineum, integrum, basi tenuius, labiis conniventibus, clausis aut anguste hiantibus, circ. 0.08 mm crassis, laevigatis, vertice denudato aut tenuissime obvelato, nigricante, 0.25—0.20 mm lato, haud aut parum prominente, latere amphithecio thallino modice incrassato, laevigato obductum. Discus rimaeformis, nigricans, haud pruinosus. Epithecium fuscescens. Sporae solitariae, decolores, oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, jodo violascentes, long. 0.100—0.130, crass. 0.022—0.034 mm, membrana haud gelatinosa. — Habitu *Gr. Acharii* similis, at apotheciis haud striatis et sporis solitariis ab ea differens.

Luzon. Subprov. Sorsogon, Irosin, *Elmer 14583.* Ad corticem arboris n. 14531.

Sect. 2. **Hemiloma** Vain.

15. **Gr. deserpens** Vain. sp. nov.

Thallus epiphloeodes, tenuis, laevigatus, albidus, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia sat dispersa, long. 10—1, lat. 0.3—0.2 mm, simplicia aut ramosa, ramis 4—1, leviter elevata, apicibus acutis aut obtusis, flexuosa aut curvata, latere abrupta. Perithecium subpurpureo-fuligineum, KHO non reagens, dimidiatum, labiis conniventibus, clausis aut angustissime hiantibus, diu laevigatis, demum stria una cinerascente instructis, vertice ceterum nigro, nudo, haud aut leviter prominente, latere amphithecio thallino sat tenui, laevigato obductum. Discus rimaeformis, bene impressus, nigricans. Epithecium dilute rufescens, KHO non reagens. Hypothecium tenuiter rubricosum, KHO non reagens. Sporae 8:nae, distichae, decolores, ellipsoideae aut ovoideae aut oblongae et apicibus rotundatis alterove apice obtuso aut globosae, murales, seriebus transversis cellularum 8, septis longitudinalibus paucis, jodo violascentes, long. 0.009—0.024, crass. 0.008—0.013 mm, strato gelatinoso tenui indutae. — Sporis minoribus et thallo KHO haud reagente a *Gr. platycarpoide* et *Gr. acuminata* Vain. differt. *Gr. inserpens* (Nyl. Syn. Cal. 72), quae autonoma est

species, apotheciis immersis, amphithecio nullo obductis, secund. specim. orig. ab ea distinguitur.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur Sci. 8544 McGregor.* Ad corticem arboris.

16. **Gr. gracilescens** Vain sp. nov.

Thallus sat tenuis, leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO punctis dilutissime rubescentibus, ceterum non reagens, hypothallo indistincto. Apothecia sat crebra, long. 7—1 (—0.3), lat. 0.3—0.25 (—0.2) mm, simplicia aut raro furcata, leviter elevata, curvata aut leviter flexuosa, apicibus rotundatis aut obtusis, lateribus abruptis aut basi leviter constricta. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis, tenuissime striatis, totis tenuissime obvelatis, cinereo-nigricantibus, amphithecio thallino nullo aut in nonnullis apotheciis juvenilibus conspicuo. Discus rimaeformis, inconspicuus. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, murales, seriebus transversis cellularum circ. 6—7, jodo leviter violascentes, long. circ. 0.025, crass. 0.010 mm, membrana haud gelatinosa. — Ab hac specie *Gr. substriatula* Nyl. secundum specimen orig., in Nicaragua lectum, apotheciis totis nudis differt. *Gr. platycarpa* Eschw. apotheciis immersis et sporis majoribus a planta nostra distinguitur.

Insulae Marianae, Guam, *McGregor 604.* Ad corticem arboris.

17. **Gr. subducta** Vain. sp. nov.

Thallus tenuis, levissime verruculoso-inaequalis aut partim sat laevigatus, cinereo-glaucescens aut cinereo-albicans, sat opacus, KHO non reagens, hypothallo nullo distincto. Apothecia crebra aut sat crebra, long. 4—1 mm, simplicia aut raro furcata, immersa aut leviter elevata, curvata aut raro flexuosa, apicibus acutis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis, stria una tenuissima vulgo instructis, tenuissime obvelatis, cinereo-nigricantibus, vix 0.1 aut 0.2 mm latum, thallo immersum aut amphithecio thallino latere obductum leviter elevato, sat tenui, sat

laevigato, basim versum sensim dilatato aut sat abrupto (tunc apothecia 0.5—0.35 mm lata). Discus rimaeformis, inconspicuus. Epithecium olivaceo-fuscescens. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, murales, seriebus transversis cellularum 12—14, cellulis numerosis, jodo violascentes, long. 0.032—0.043, crass. 0.010—0.015 mm, membrana crassitudine 0.0015 mm, subgelatinosa. — Habitu similis est *Gr. subducenti* (Nyl.), quae autem perithecio integro et striis magis evolutis ab ea differt. Etiam *Gr. inserpentem* (Nyl.) in memoriam revocans.

Luzon, Manila, *Merrill 8576*. Ad corticem arboris (*Spondias purpurea*).

18. **Gr. hiascens** (Fée) Nyl. Lich. Exot. 226. *Graphina* Müll. Arg. Gr. Fécan. 42.

Var. **clausior** Vain.

Apothecia partim longiora, long. circ. 6—2 mm, lat. 0.5 (0.6—0.4 mm), labiis angustissime hiantibus aut subclausis. — Thallus sat tenuis, leviter verruculoso-inaequalis, KHO parum reagens vel subflavescens. Apothecia leviter prominentia, flexuosa. Perithecium fuligineum, dimidiatum, labiis laevigatis, superne denudatis, latere amphithecio thallino obductis sat crasso, sat laevigato aut leviter verruculoso-inaequali, basi abrutis aut subconstrictis. Epithecium fere decoloratum. Sporae solitariae aut binae aut 4:nae, decolores, apicibus rotundatis aut subobtusis, murales, cellulis numerosissimis, jodo violascentes, long. 0.046—0.086, crass. 0.020—0.030 mm.

Luzon, Subprov. Rizal, Antipolo, *Bur. Sci. 29548 Ramos* et *Edaño*. Ad corticem arboris.

18. **Gr. diplocheila** Vain. sp. nov.

Thallus sat crassus aut modice incrassatus (0.3—0.2 mm), leviter verrucoso- et verruculoso-rugosus, stramineo-glaucescens, nitidus, KHO dilute roseus, hypothallo nullo distincto. Apothecia sparsa aut aggregata, long. 8—1.5, lat. 0.7—0.5 mm, simplicia aut dichotome ramosa, modice elevata, curvata aut flexuosa, apicibus rotundatis aut obtusis aut haud elevatis. Perithecium fuligineum aut subpurpureofuligineum, KHO distinctius purpureum, dimidiatum,

labiis conniventibus, clausis aut anguste hiantibus, laevigatis, haud denudatis, amphithecio thallino omnino obductis sat crasso, leviter verruculoso-inaequali, thallo concolore, basim versus sensim dilatato aut partim sat abrupto. Discus rimaeformis, bene impressus, fere inconspicuus. Hymenium haud resinosum. Epithecium rufescens. Sporae solitariae aut rarius in eodem apothecio binae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.078—0.130, crass. 0.022—0.026 mm, binae long. 0.052—0.056, crass. 0.016 mm, membrana interdum strato tenui gelatinoso induta. — *Gr. vernicosam* (Fée) et *Gr. subvestitam* Vain. in memoriam revocans, at apotheciis haud striatis ab iis differens.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8605 McGregor.* Ad corticem arboris.

19. **Gr. Antillarum** Vain. Hedwigia 1899 p. 255. *Gr. sophistica* Nyl. Lich. Nov. Gran. Prodr. 465 pr. p.

Var. **manilensis** Vain.

Apothecia levissime elevata. Perithecium laevigatum, fuligineum, superne denudatum, latere amphithecio thallino obductum tenui, basi levissime constricto aut abrupto, verticem perithecii aequante. — Thallus sat tenuis, levissime verruculoso-inaequalis, albidus, KHO non reagens. Apothecia sat crebra, long. 5—0.5 mm, simplicia aut 1—2 ramis divaricatis instructa, partim plus minusve flexuosa curvatave, cum amphithecio 0.25—0.2 mm lata, perithecio 0.15—0.1 mm lato, fuligineo, dimidiato. Epithecium fuscescens. Sporae 4:nae — 2:nae, oblongae aut ovoideo-oblongae aut fusiformes, decolores, murales, seriebus cellularum transversis 9—10, long. 0.030—0.038, crass. 0.011—0.014 mm, membrana haud gelatinosa Specimen n. 540, in Guadalupa lectum, pluribus apotheciis in hanc var. transit. — *Gr. Antillarum* var. *divaricata* (Leight. Lich. Brit. Exs. n. 19) amphithecio nullo aut parum distincto a. v. *manillensi* differt

Luzon, Subprov. Laguna, *For. Bur. 13753 R. Rosenbluth* et *F. Tamesis.* Ad corticem arboris.

20. **Gr. subserpentina** Nyl. Lich. Nov.-Gran. 465, Lich. Ceyl. 21; Vain. Catal. Welw. Afr. Pl. II P. 2 Lich. 436, haud Krempelh. Fl. 1876 p. 381 (teste Zahlbr. Ergebn. Exp. Südbras. Lich., 1909, p. 25, Müll. Arg. Lich. Costar. II 152, Thel. Graph. 459).

Apothecia immersa. Perithecium fuligineum, dimidiatum, angustum, labiis conniventibus, clausis, laevigatis, nudis. Hymenium circ. 0.18 mm crassum. Epithecium pallescens aut decoloratum. Sporae solitariae, decolores, jodo violascentes, murales, oblongae, apicibus rotundatis, long. 0.065—0.104, crass. 0.015—0.026 mm, membrana haud gelatinosa. Thallus albido-glaucescens, KHO parum reagens, demum subolivaceus.

Negros, Carancalan, *Merrill 6742*. Ad corticem *Mangiferae indicae*.

21. **Gr. orientalis** Vain. sp. nov.

Thallus sat tenuis, sat laevigatus, albidus aut cinereo-albicans, leviter nitidus aut partim sat opacus, KHO parum reagens (subpallidus), linea hypothallina tenui nigricante partim limitatus. Apothecia sat crebra, long. 9—1, lat. 0.5—0.3 mm, leviter prominentia aut raro partim immersa, simplicia aut raro furcata, pro parte bene curvata flexuosave, apicibus rotundatis aut obtusis. Perithecium fuligineum, medio basis deficiens aut partim integrum, labiis conniventibus, clausis aut demum angustissime hiantibus, laevigatis, vertice 0.3—0.15 mm lato nudo, haud aut leviter prominente, latere amphithecio thallino obductum modice incrassato aut sat tenui, basi abrupto. Discus rimaeformis, bene impressus, nigricans. Epithecium decoloratum aut pallidum aut fuscescens. Paraphyses saepe apice clavatae. Sporae solitariae, decolores, oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, jodo violascentes, long. 0.052—0.110, crass. 0.014—0.022 mm, membrana haud gelatinosa. — *Gr. analogam* Nyl. et *Gr. dimidiatam* Vain. in memoriam revocans, at sporis majoribus solitariisque ab iis differens.

Guimaras, *Merrill 6716* pr. p. Palawan, Taytay, *Merrill 9038*. Dinagat, *Bur. Sci. 35894 Ramos, Pascasio*. Biliran, *Bur. Sci. 18445 McGregor*. Ad corticem arborum (*Cocos nucifera*, *Rhizophoreae*).

22. **Gr. MacGregorii** Vain. sp. nov.

Thallus sat tenuis, sat laevigatus aut levissime verruculoso-inaequalis, albidus aut cinereo-albicans, leviter nitidus, KHO dilute subflavescens, dein pulchre rubescens, hypothallo indistincto. Apothecia sat crebra, long. 7—0.7 mm, thallo immersa aut rarius pr. p leviter prominentia, simplicia aut raro furcata, bene curvata flexuosave, apicibus obtusis aut acutis. Perithecium fuligineum, dimidiatum, lat. 0.2—0.15 mm, labiis conniventibus, clausis, laevigatis, vertice nudo instructis, thallum haud superantibus, aut partim latere amphithecio thallino obductum sat tenui, leviter a thallo prominente, basi abrupto (toto apothecio 0.3 mm lato). Discus rimaeformis, inconspicuus. Perithecium decoloratum. Epithecium decoloratum. Sporae solitariae, decolores, oblongae, apicibus rotundatis aut obtusis, murales, cellulis numerosissimis, jodo violascentes, long. 0.060—0.110, crass. 0.020—0.025 mm, membrana haud gelatinosa. — Apotheciis amphithecio thallino instructis habitu omnino similis est *Gr. orientali*, at apotheciis vulgo immersis et reactione thalli ab ea differens. Etiam *Gr. disserpentem* Nyl. var. *confusiorem* Vain. in memoriam revocans.

Insulae Marianae, Guam, *McGregor 607*. Ad corticem arboris (*Cocos*).

23. **Gr. Copelandii** Vain. sp. nov.

Thallus sat tenuis aut partim modice incrassatus, sat laevigatus, albidus, leviter nitidus, KHO parum reagens, hypothallo indistincto. Apothecia sat crebra, long. 15—1.5 mm, lat. 0.3—0.2 mm, thallo immersa, simplicia aut furcata aut dichotome repetito-ramosa, bene curvata aut flexuosa, apicibus obtusis aut acutis aut sensim attenuatis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut anguste hiantibus, laevigatis, vertice nudo, thallum haud superante, amphithecio haud evoluto. Discus rimaeformis, impressus, nigricans. Epithecium decoloratum. Sporae binae aut solitariae, decolores, ellipsoideae aut oblongae, apicibus obtuso-rotundatis, murales, cellulis numerosissimis, seriebus transversis cellularum circ. 15, jodo violascentes, long. 0.040—0.065, crass. 0.019—0.022

mm, membrana haud gelatinosa. — Speciebus duabus praecedentibus proxime affinis.

Luzon, Subprov. Bataan, prope flumen Samao, *Copeland 196*. Ad corticem putridum arboris.

24. **Gr. analoga** Nyl. Énum. Gén. Lich. 128, Lich. Exot. 244, Lich. Nov.-Gran. Prodr. ed. II 359 pr. p., Lich. Guin. 29; Huc Lich. Exot. 235 pr. p.; Zahlbr. Ergebn. Südbras. Lich. 107; Vain. Add. Lich. Ant. 145.

Thallus tenuis, sat laevigatus, albidus aut albido-glaucescens, KHO haud aut parum reagens (maculis roseis aut dilute subflavescens), linea hypothallina angusta interdum partim limitatus. Apothecia irregulariter disposita, vulgo sat approximata, long. 4—0.4, lat. 0.2—0.3 mm, simplicia, recta aut raro leviter curvata, prominentia, latere abrupta aut basi leviter constricta, apicibus obtusis aut rotundatis. Perithecium fuligineum, dimidiatum aut basi mediae anguste deficiens aut in eodem specimine integrum, labiis conniventibus, clausis aut demum angustissime hiantibus, laevigatis, vertice nudo, amphithecium vulgo bene superante, latere amphithecio thallino tenui anguste obductum. Discus rimaeformis, impressus, nigricans, aut inconspicuus. Hymenium circ. 0.130 mm crassum. Epithecium sordide pallidum aut fuscescens. Sporae 8:nae aut rarius 4:nae in eodem apothecio, distichae, decolores, oblongae aut ellipsoideae aut ovoideae, apicibus rotundatis aut rarius obtusis aut saepe altero apice obtuso aut acuto, murales, cellulis numerosis, seriebus transversis cellularum 7—10, jodo violascentes, long. 0.021—0.038, crass. 0.007—0.013 mm, membrana strato gelatinoso tenui aut nullo induta.

Var. **consimilis** Vain. *Gr. consimilis* Vain. Fl. Koh Chang Lich. 359.

Supra descripta. Apotheciis longioribus a var. *nana* differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14547*. Palawan, *Merrill 9047*. Insula Cavilli in Mari Suluensi, *Merrill 7182*. Insulae Batanes, *Bur. Sci. 10209 a McGregor*. Ad corticem arborum.

Var. **nana** Vain.

Apothecia brevia, long. 0.8—0.2, lat. 0.25—0.15 mm, amphithecio thallino minus evoluto. Perithecium dimidiatum. Hymenium

circ. 0.55 mm crassum. Epithecium sordide pallidum. Sporae 8:nae, ovoideae, altero apice rotundato, altero sat obtuso, murales, seriebus cellularum transversis 7—11, jodo violascentes, long. 0.027—0.042, crass. 0.007—0.013 mm, membrana strato tenui gelatinoso induta.

Palawan, Taytay, *Merrill 9056* pr. p. Ad corticem arboris.

25. **Gr. nanodes** Vain. sp. nov.

Thallus tenuis, sat laevigatus, albidus aut albido-glaucescens, sat opacus, KHO parum reagens, hypothallo indistincto. Apothecia vulgo sat approximata, irregulariter disposita, long. 1.5—0.5 (—3.5), lat. 0.25—0.15 (—0.35) mm, simplicia, recta, prominentia, latere abrupta aut basi leviter constricta, apicibus sat acutis aut obtusis. Perithecium fuligineum, dimidiatum aut basi tenue, labiis conniventibus, clausis aut demum angustissime hiantibus, laevigatis, vertice nudo, amphithecium haud aut bene superante, latere amphithecio thallino tenui late aut anguste obductum. Discus rimaeformis, impressus, nigricans, aut inconspicuus. Epithecium fuscescens aut pallidum. Paraphyses apice leviter incrassatae. Sporae binae, decolores, oblongae aut ovoideo- aut fusiformi-oblongae, altero apice obtuso aut apicibus ambobus obtusis aut rotundatis, murales, cellulis numerosissimis, seriebus transversis cellularum 8—12, jodo violascentes, long. 0.030—0.050, crass. 0.012—0.020 mm, membrana haud gelatinosa. — Vix nisi sporis binis a *Gr. analoga* var. *nana* differt.

Luzon, Subprov. Benguet, Pauai, *Copeland 1382*; Subprov. Laguna, Los Baños, *Baker 1253* pr. p. Ad corticem *Macarangae* aliarumque arborum.

26. **Gr. sorsogona** Vain. sp. nov.

Thallus tenuis, sat laevigatus, albidus, leviter nitidus, KHO non reagens, linea hypothallina nigricante angusta partim limitatus. Apothecia vulgo sat approximata, irregulariter disposita, long. 0.7 0.3, lat. 0.3—0.2 mm, simplicia, recta, prominentia, latere abrupta, apicibus obtusis. Perithecium fuligineum, dimidiatum, labiis

conniventibus, angustissime hiantibus, laevigatis, vertice nudo, amphithecium haud superante aut demum prominente, latere amphithecio thallino tenui late obductum. Discus rimaeformis, impressus, nigricans, aut inconspicuus. Epithecium decoloratum aut sordide pallidum. Paraphyses apice haud incrassatae. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.078—0.110, crass. 0.020—0.036 mm, membrana strato gelatinoso 0.004—0.008 mm crasso induta. — Subsimilis *Gr. analogae* var. *nanae, Gr. nanodi* et *Gr. cleitopsi*, at sporis bene gelatinosis ab iis facile dignota.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14924*. Ad corticem arboris n. 14922.

27. **Gr. polillensis** Vain. sp. nov

Thallus tenuis, sat laevigatus, albidus, leviter nitidus, KHO parum reagens, hypothallo indistincto. Apothecia bene aut sat approximata, long. 6—1, lat. 0.3—0.2 mm, simplicia aut raro furcato-confluentia, flexuosa curvataque, modice prominentia, rarius partim semiimmersa, latere abrupta, apicibus obtusis aut rotundatis. Perithecium fuligineum, dimidiatum, labiis conniventibus, angustissime hiantibus, laevigatis, nudis, amphithecio nullo distincto aut passim leviter evoluto tenuique. Discus rimaeformis, impressus, nigricans. Epithecium decoloratum pallescensve aut dilute fuscescens. Sporae solitariae, decolores, oblongae, apicibus obtusis aut rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.050—0.056, crass. 0.012—0.018 mm, membrana haud gelatinosa. — Habitu *Gr. condamineam* Fée et *Gr. Pelletieri* Fée in memoriam revocans, a priore apotheciis laevigatis et sporis differens et a posteriore apotheciis nudis recedens.

Polillo, *Bur. Sci. 9083* pr. pr. *Robinson*. Ad corticem arboris.

28. **Gr. disserpens** Nyl. Flora 1864 p. 618, Lich. Ins. Andam. 16; Müll. Arg. Graph. Fécan. 40; Vain. Étud. Lich. Brés. II 123, Fl. Koh Chang Lich. 364, Addit. Lich. Antill. 147.

Var. **elongata** Vain. (Étud. Lich. Brés. II, 107).

Apothecia valde elongata, partim dendritico-ramosa. — Thallus albidus, KHO leviter maculatim rubescens. Sporae murales, cellulis numerosis, seriebus cellularum transversis 7—8, decolores, jodo violascentes, long. 0.022—0.028, crass. 0.012—0.014 mm, membrana leviter incrassata, haud gelatinosa. Labia perithecii nigra, nuda, haud distincte striata.

Polillo, *Bur. Sci. 9083* pr. p. *Robinson*. Ad corticem arboris.

Sect. 3. **Chlorographina** (Müll. Arg.) Vain.

29. **Gr. indita** Vain. sp. nov.

Thallus sat crassus, verrucoso-inaequalis, glauco-lutescens aut fulvescens, leviter nitidus, KHO intense obscureque sanguineo-rubescens, intus jodo non reagens, hypothallo indistincto. Apothecia irregulariter aggregata, long. 10—1, lat. 1—0.5 mm, simplicia aut raro furcata, saepe flexuosa curvatave, elevata, basi constricta aut sat abrupta, apicibus rotundatis aut obtusis, vertice pallido. Perithecium albidum, sat tenue, labiis conniventibus, clausis aut sat anguste hiantibus, striatis, superne subdenudatis, amphithecio thallino crasso (saepe circ. 0.4 mm crasso) latere plus minusve late obductum. Discus angustus, bene impressus, caesiopallidus, aut rimaeformis inconspicuusque. Epithecium decoloratum. Sporae 8—2:nae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosis, jodo non reagentes, long. 0.028—0.052, crass. 0.009—0.011 mm, membrana haud gelatinosa.

Var. **marivelensis** Vain.

Thallus glauco-lutescens. Apothecia long. 10—2, lat. 1—0.8 mm, bene elevata, basi constricta. Perithecium labiis conniventibus, 0.15—0.20 mm late hiantibus. Discus angustus, bene impressus, caesiopallidus. Hymenium circ. 0.18 mm crassum. Sporae 8:nae, distichae, long. 0.043—0.052, crass. 0.009—0.011 mm.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 3976*. Ad corticem arboris.

Var. **pularensis** Vain.

Thallus fulvescens aut partim glauco-fulvescens. Apothecia long. 3.5—1, lat. 1—0.5 mm, modice elevata, latere sat abrupta aut rarius basi leviter constricta. Perithecium labiis conniventibus, clausis aut raro demum angustissime hiantibus. Discus rimaeformis, inconspicuus. Sporae binae aut plures in eodem asco, seriebus cellularum transversis 7 aut pluribus, long. 0.028—0.042, crass. 0.011—0.014 mm.

Luzon, Subprov. Tayabas, mons Pular, *Bur. Sci. 19446 Ramos*. Ad corticem arboris.

30. **Gr. contexta** (Pers.) Nyl. Énum. Gén. Lich. 129, Lich. Exot. 244, Syn. Lich. Nov. Cal. 81, Lich. Guin. 27.

Thallus modice incrassatus, stramineo-glaucescens, nitidus, KHO parum reagens, intus jodo non reagens, hypothallo nigricante limitatus. Apothecia long. circ. 8—1.5, lat. 0.6—0.3 mm, saepe dendroideo-ramosa, ramis radiantibus aut dichotomis, partim flexuosa curvatave, prominentia, lateribus basim versus sensim dilatatis aut demum sat abruptis, apicibus acutis aut sensim attenuatis. Hypothecium superne albidum, ceterum perithecium pallidum, labiis conniventibus aut demum anguste hiantibus, in limite amphithecii et verticis denudati stria una demum instructis, 0.025—0.040 mm crassis, vertice demum anguste denudato, pallido, haud prominente (h. e. amphithecium haud superante), ceterum latere amphithecio thallino, ad verticem attenuato, obductum. Discus rimaeformis inconspicuusque aut demum angustissimus, impressus, testaceus aut pallidus. Epithecium decoloratum. Sporae 8:nae, distichae, decolores, ellipsoideae, vulgo submurales, septis transversis 3, loculis partim septo longitudinali uno aut septis 2 divisis, jodo violascentes, long. 0.013—0.017, crass. 0.007—0.010 mm, membrana haud gelatinosa.

Luzon, Subprov. Bataan, mons Mariveles. *Merrill 6250*. Ad corticem arboris.

Sect. 4. **Thalloloma** (Trev.) Vain.

31. **Gr. cladophora** Vain. sp. nov.

Thallus sat tenuis aut modice incrassatus, cinerascenti-albidus, leviter nitidus, laevigatus, KHO rubescens, intus jodo caerulescens, hypothallo indistincto. Apothecia long. 11—2 mm aut breviora, saepe partim in particulas plus minusve breves punctiformesve, in series ramosas dispositas, interrupta, lat. 0.4—0.6 mm, partim dendroideo- aut subradiato-ramosa aut dichotome ramosa aut partim simplicia, saepe flexuosa curvatave, prominentia, lateribus basim versus sensim dilatatis, apicibus obtusis aut rarius sensim attenuatis. Perithecium tenue, basi latereque rufescens aut latere superne albidum, hypothecio superne albido, labiis demum patentibus, extus totis amphithecio thallino sat tenui obductis. Discus levissime impressus, rufescens nudusque aut rarius livido-pruinosus. Hymenium circ. 0.110 mm crassum. Epithecium rufescens aut pallido-rufescens. Sporae 8:nae, distichae, decolores, oblongae aut fusiformes, apicibus rotundatis aut obtusis acutisve, murales, cellulis sat numerosis, seriebus transversis cellularum 10—8, jodo violascentes, long. 0.030—0.040, crass. 0.012—0.014 mm, membrana haud gelatinosa. — Habitu *Gr. contextam* et *Gr. grammitem* in memoriam revocans.

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7990*. Ad corticem arboris.

32. **Gr. irosina** Vain. sp. nov.

Thallus crassus aut sat crassus (0.8—0.4 mm), partim demum substrato laxe affixus et superne partim bullato-rugosus, albido- vel stramineo-glaucescens, parum nitidus, nec KHO nec jodo reagens, subtus scrobiculatus, sordide pallidus, hypothallo indistincto. Apothecia long. 5—0.5, lat. 0.5—0.3 (0.8) mm, partim crebre aggregata, simplicia, partim curvata flexuosave, haud aut parum prominentia, apicibus vulgo obtusis, lateribus apotheciorum prominentium abruptis aut basim versus sensim dilatatis, labiis anguste patentibus, saepe irregularibus, interdum longitudinaliter aut transversim fissis aut verruculosis granulosisve, thallo concoloribus aut magis albidis

Perithecium tenue, pallidum, labiis amphithecio thallino obductis. Discus leviter impressus, rufescens aut testaceus, lat. 0.15—0.1 mm. Epithecium pallidum. Sporae 8:nae, decolores, oblongae aut ovoideae aut late fusiformes, apicibus rotundatis aut obtusis aut sat acutis, murales, cellulis sat numerosis, seriebus transversis cellularum 9—10, jodo non reagentes, long. 0.027—0.036, crass. 0.012—0.016 mm, membrana haud gelatinosa. — Forsan transit in *Gr. intercludentem* Vain. (*Gr. egena* f. *intercludens* Nyl., Syn. Lich. Nov. Cal. 82), sporis gelatinosis instructam.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15100*. Ad corticem arboris.

33. **Gr. cinereoalba** Vain. sp. nov.

Thallus sat tenuis, cinereo-glaucescens, leviter nitidus, sat laevigatus, nec KHO nec jodo reagens, hypothallo nigricante partim limitatus. Apothecia long. 5—1, lat. 0.35—0.4 mm, sparsa aut partim subconfluentia, simplicia aut dichotome repetito-ramosa, ramis divaricatis, interdum leviter flexuosa, prominentia, apicibus obtusis aut acutis, lateribus abruptis aut basi constrictis, thallo concoloribus, vertice late albo, labiis laevigatis, angustissime hiantibus aut clausis. Hypothecium album. Parathecium album, tenue aut evanescens, haud denudatum, amphithecio thallino, circ. 0.14 mm crasso obductum. Hymenium circ. 0.08—0.10 mm crassum. Epithecium decoloratum. Discus bene impressus, rimaeformis. Sporae 8:nae, monostichae aut distichae, decolores, globosae aut ellipsoideae, apicibus rotundatis, submurales, septis transversis 1—3, loculis partim septo uno longitudinali divisis, jodo violascentes, long. 0.010—0.017, crass. 0.008—0.010 mm, membrana haud gelatinosa. — *Gr. subtorquens* Nyl. (Lich. Andam. 16) secund. hb. Nyl. apotheciis cinereoglaucescentibus et sporis jodo non reagentibus ab hac specie differt.

Luzon, Subpr. Sorsogon, Irosin, *Elmer 14876*. Ad corticem arboris n. 14826.

34. **Gr. samalensis** Vain. sp. nov.

Thallus sat tenuis, glaucescens aut cinereo-glaucescens, sat opacus, sat laevigatus, KHO parum reagens, jodo non reagens,

linea hypothallina nigricante partim limitatus. Apothecia long. 4—0.5, lat. 0.5—0.25 mm, saepe crebra, simplicia aut raro parce ramosa, recta aut rarius leviter flexuosa curvatave, prominentia, apicibus obtusis rotundatisve, lateribus demum abruptis, anguste thallo concoloribus, vertice late albo aut sordide albicante, labiis laevigatis aut irregularibus aut raro leviter substriatis, clausis aut leviter hiantibus. Hypothecium albidum. Parathecium albidum, tenue aut evanescens, amphithecio thallino, circ. 0.12—0.16 mm crasso totum obductum. Hymenium circ. 0.15 mm crassum. Epithecium decoloratum. Discus bene impressus, rimaeformis aut tantum in sectione apothecii visibilis. Sporae 8:nae, subdistichae, decolores, fusiformes aut oblongae, apicibus obtusis aut altero apice sat acuto, murales, septis transversis 7—9, cellulis numerosis, jodo lutescentes, long. 0.022—0.032, crass. 0.009—0.014 mm, membrana haud gelatinosa. — Haec et praecedens species perithecio minus evoluto a *Chlorographinis* differunt. *Gr. Poitaei* Fée secund. specim. orig. n. 6879 in hb. Nyl. disco aperto, angusto, caesio et ex annot. Nyl. apotheciis KHO flavescentibus et sporis jodo caerulescentibus a planta nostra recedit.

Insula *Samal* prope Davao in *Mindanao*, *Copeland 851.* Postea collecta in Subprov. Apayao in Luzon, *Bur. Sci. 28344 Fénix.* Ad truncos arborum.

35. **Gr. revelatula** Vain. sp. nov.

Thallus tenuis, albidus aut glaucescenti-albidus, opacus, KHO non reagens, hypothallo indistincto. Apothecia long. 1.5—0.3 (—2), lat. 0.2—0.1 mm, sat crebra, simplicia aut furcata aut raro substellato-ramosa, saepe flexuosa curvatave, immersa aut parum emergentia, apicibus rotundatis obtusisve aut sensim attenuatis. Parathecium crass. 0.010 mm, rufescens aut fusco-rufescens, patens. Hypothecium superne pallidum, inferne tenuissime rufescens. Discus lividus aut livido-nigricans, apertus, planus, haud impressus. Epithecium fuscescens rufescensve. Paraphyses gelatinosae, simplices, apice leviter incrassatae. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, altero apice rotundato, altero acuto, murales,

septis transversis 9, cellulis numerosis, loculis apicalibus 1—4 simplicibus, jodo violascentes, long. 0.027—0.038, crass. 0.009—0.011 mm, strato gelatinoso 0.002—0.004 mm crasso, jodo non reagente, indutae. — *Gr. develatulae* et *Gr. virginellae* Nyl. affinis est.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14634* pr. p. Ad corticem arboris n. 14623.

36. **Gr. evanida** Vain. sp. nov.

Thallus tenuis, laevigatus, pallescens, leviter nitidus, KHO parum reagens, linea hypothallina nigricante limitatus. Apothecia long. 2—0.5, lat. 0.1 mm, sat crebra, simplicia aut leviter ramosa, saepe fluxuosa curvatave, immersa aut parum emergentia, apicibus sensim attenuatis aut obtusis. Parathecium tenue, fuscum, patens. Hypothecium albidum. Discus apertus, planus aut concavus, haud aut parum impressus, caesius pruinosusque aut raro denudatus rufescensque. Epithecium olivaceopallidum. Paraphyses simplices, gelatinosae. Sporae 8:nae, distichae, decolores, ellipsoideae aut oblongae aut ovoideae, apicibus rotundatis, murales, cellulis paucis, seriebus cellularum 4—5, irregularibus, jodo violascentes, long. 0.017—0.023, crass. 0.009—0.012 mm, haud gelatinosae. — Affinis speciei praecedenti, quacum parce lecta.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14634* pr. p. Ad corticem arboris n. 14623.

37. **Gr. philippina** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, opacus, KHO non reagens aut maculis lutescentibus, hypothallo indistincto. Apothecia long. 3.5—0.5, lat. 0.4—0.2 mm, partim sat crebra aut nonnulla subconfluentia, simplicia aut ramis parcis instructa, partim flexuosa curvatave, immersa aut partim leviter emergentia, apicibus obtusis aut partim sensim attenuatis, margine sat tenui, KHO flavescente deindeque fulvescente. Perithecium albidum, tenue, parathecio patente, amphithecio obductum thallino, demum saepe leviter prominente, basim versus sensim dilatato aut sat abrupto. Discus apertus, planus, impressus, albido- aut raro caesiolivido-pruinosus,

lat. 1.5—0.3 mm. Epithecium albidum. Paraphyses simplices. Sporae binae, ternae, quaternae aut raro in eodem apothecio solitariae, decolores, oblongae, apicibus rotundatis aut raro obtusis, murales, cellulis numerosissimis, long. 0.048—0.108, crass. 0.018—0.031 mm, jodo violascentes, membrana haud gelatinosa aut juveniles strato gelatinoso indutae. — Proxima *Gr. subobtectae* Nyl. (Lich. Andaman 18), quae epithecio fuscescente et apotheciis KHO aurantiaco-ferruginascentibus ab ea differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15042*, *15081* pr. p. Ad corticem arborum n. 15041, 15074.

38. **Gr. albidolivens** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus aut albido-glaucescens, opacus, nec KHO, nec jodo reagens, linea hypothallina nigricante angusta partim limitatus. Apothecia long. 5—0.5, lat. 0.4—0.15 mm, partim sat crebra aut nonnulla subconfluentia, simplicia aut ramis paucis vel pluribus, irregulariter dispositis, instructa, partim flexuosa curvatave, immersa aut leviter emergentia, apicibus rotundatis aut obtusis aut parcius sensim attenuatis, margine tenui aut sat tenui, KHO fulvescente. Perithecium albidum aut pallidum, tenue, parathecio patente, amphithecio obductum thallino, saepe demum leviter prominente, basim versus sensim dilatato aut sat abrupto. Discus apertus, planus, vulgo leviter impressus, livido-fuscescenti-pruinosus, lat. 0.3—0.15 mm. Hymenium jodo non reagens. Epithecium livido- aut fumoso-pallidum. Paraphyses partim parce ramoso-connexae. Sporae solitariae aut raro in eodem apothecio binae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.070—0.140, crass. 0.016—0.038 mm, strato gelatinoso (0.002—0.016 mm crasso) indutae. — Affinis praecedenti et *Gr. affinissimae* Nyl. Syn. Lich. Nov. Cal. 81). A *Gr. concolore* Nyl. apotheciis magis emergentibus, disco vulgo angustiore, margine crassiore et sporis bene gelatinosis differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14631*, *14757*, *14897*, *15029*, *15045*; Subprov. Laguna, *Bur. Sci. 9705* pr. p. *Robinson*. Ad corticem arborum n. 14623, 14755, 14897, 15028, 15041.

39. **Gr. fruticicola** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus aut albido-glaucescens, sat opacus, nec KHO, nec jodo reagens, hypothallo nigricante passim parce limitatus. Apothecia long. 10—1, lat. 1—0.5 mm, sparsa, simplicia aut ramis paucis dichotomis aut raro ramis pluribus, irregulariter dispositis, instructa, saepe flexuosa, leviter elevata aut emergentia, apicibus rotundatis aut obtusis, margine vulgo sat crasso, thallo concolore, KHO leviter subfulvescente. Perithecium tenue, albidum aut pallidum aut hypothecio inferne fulvescente, parathecio patente, amphithecio obductum thallino, basim versus sensim dilatato aut abrupto. Discus apertus, planus, vulgo leviter impressus, livido-pallescens, tenuiter pruinosus, lat. 0.25—0.4 mm. Hymenium circ. 0.140 mm crassum, jodo non reagens. Epithecium pallidum aut sordide pallidum. Paraphyses simplices aut apice furcatae. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.088—0.140, crass. 0.027—0.043 mm, membrana haud gelatinosa. — Forsan est variatio *Gr. concoloris* Nyl., apotheciis vulgo simplicioribus, magis prominentibus, margine crassiore thalloque concolore, disco pallidiore et epithecio pallescente ab ea differens, at haud satis constans.

Luzon, Sorsogon, Irosin, *Elmer 14443* pr. p., *14711*. Ad corticem fruticum n. 14436 et 14679.

40. **Gr. diorygmatoides** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, opacus, KHO flavescens, dein rubescens, jodo non reagens, substrato arcte adnatus, hypothallo nigricante limitatus. Apothecia long. 5—0.7, lat. 0.5—0.25 mm, vulgo sat crebra, dichotome repetito-ramosa aut fere subdendritice ramosa aut pr. p. simplicia, saepe flexuosa curvatave, apicibus rotundatis aut obtusis, leviter emergentia, margine sat tenui. Perithecium tenue, pallidum aut albidum, hypothecio albido aut (in f. *hypocrocea*, n. 8530) fulvescente aut fulvo-rubescente, jodo non reagens, parathecio patente, amphithecio thallino obducto. Discus apertus, leviter impressus, planus, cinereo- aut caesio-pruinosus, partim demum denudatum nigricansque. Hymenium circ. 0.13 mm

crassum, jodo caerulescens. Epithecium lividopallidum aut olivaceum aut sordide aeruginosum aut sordide obscuratum. Paraphyses simplices aut parcissime ramoso-connexae. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.093—0.104, crass. 0.028—0.034 mm (in f. *hypocrocea* long. 0.082—0.086, crass. 0.026—0.030 mm), membrana haud gelatinosa. — *Gr. tinctoria* (Eschw.) thallo subtus nigricante et laxe adhaerente sec. specim. orig. n. 6944 in herb. Nyl. ab hac specie differt.

Luzon, in viciniis Manilae, *Merrill 8515, 8530* (f. *hypocrocea* Vain.). Ad corticem *Strebli asperi* Laur.

41. **Gr. mendax** Nyl. Enum. Gén. Lich. 129, Lich. Exot. 244, Fl. 1867 p. 196, Syn. Lich. Nov. Cal. 50. *Graphina* Müll. Arg. Lich. Exot. 285 (haud *Glyphis* Müll. Arg. Lich. Beitr. n. 975, 1102).

Thallus tenuis, laevigatus, albidus aut glaucescenti-albidus, levissime nitidus, KHO non reagens, substrato arcte adnatus, hypothallo indistincto. Apothecia long. 3—0.8, lat. 0.4—0.2 mm, aggregata aut sparsa, subdendritice aut parce ramosa aut partim simplicia, parcius curvata flexuosave, apicibus obtusis rotundatisve aut partim sensim attenuatis, leviter emergentia, margine sat tenui, KHO non reagente. Perithecium albidum, tenue, parathecio patente, amphithecio thallino obducto. Discus apertus, leviter impressus, pruinosus. Epithecium pallidum. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. circ. 0.080—0.082, crass. 0.026—0.030 mm, membrana haud gelatinosa.

Palawan, Taytay, *Merrill 9057*. Ad corticem *Pongamiae mitis* in littore.

42. **Gr. peralbata** Vain. sp. nov.

Thallus tenuis, laevigatus aut leviter minutissime verruculosus, albidus, sat opacus, KHO lutescens, dein rubescens, substrato arcte adnatus, hypothallo indistincto. Apothecia long. 3.5—0.5, lat. 0.4—0.25 mm, crebra, saepe subdendritice conferta ramosave aut partim simplicia, subrecta et partim curvata flexuosave, apicibus

rotundatis obtusisve aut partim sensim attenuatis, leviter emergentia, margine sat tenui, KHO lutescente rubescenteque. Perithecium albidum, tenue, parathecio patente, amphithecio thallino obducto, lateribus sat abruptis aut basim versus sensim dilatatis. Discus apertus, leviter impressus, caesio- aut cinereo-pruinosus. Hymenium jodo pulchre caerulescens. Epithecium lividum. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.057—0.089, crass. 0.022—0.026 mm, membrana haud gelatinosa. — Affinis *Gr. diorygmatoidi*, in quam forsan transit.

Negros, Bago, Hacienda Louisiana, *Merrill 6800*. Ad corticem *Pithecolobii* dulcis.

Var. **bilirana** Vain.

Apothecia subimmersa, demum pr. p. prominentia, irregulariter conferta. — Sporis minoribus et hypothallo indistincto a *Gr. diorygmatoide* differt. Thallus jodo non reagens, KHO demum rubescens et crystalla acicularia brevia rubra formans. Hymenium jodo caerulescens. Epithecium decoloratum. Paraphyses simplices, apicibus saepe ramulosis aut furcatis. Sporae solitariae, long. 0.050—0.070, crass. 0.018—0034 mm, membrana haud gelatinosa. Hypothecium albidum.

Biliran, *Bur. Sci. 18452 McGregor*. Ad corticem arboris.

43. **Gr. pachygraphiza** Vain. sp. nov.

Thallus crassus aut sat crassus, crass. 1—0.5 mm, verruculoso- et verrucoso-incrassatus, sat mollis, sat fragilis, crebre contextus, albus, opacus, KHO lutescens, dein rubescens, medulla jodo caerulescente, substrato arcte adnatus, hypothallo indistincto. Apothecia long. 8—1.2, lat. 1.5—1 mm, sparsa aut partim aggregata, simplicia aut parce furcata, saepe leviter flexuosa curvatave, prominentia, apicibus obtusis rotundatisve, margine crasso (0.7—0.2 mm), saepe leviter verrucoso-rugoso, interdum stria una longitudinali instructo, albido-pallescente aut subalbido, KHO lutescente deindeque rubescente. Perithecium dilute pallidum, parathecio patente, amphi-

thecio thallino obducto, lateribus basi constrictis. Discus apertus, lat. 0.6—0.15 mm, impressus, livido- aut pallido-pruinosus, inaequalis, subgranulosus. Hymenium jodo lutescens. Epithecium sordide pallidum. Paraphyses gelatinosae, simplices, apice partim parce ramoso-connexae. Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo leviter violascentes, long. 0.140—0.200, crass. 0.042—0.050 mm, membrana haud gelatinosa aut in sporis juvenilibus gelatinoso-incrassata. — *Gr. pachygraphum* Nyl. (Prodr. Lich. Nov.-Gran. 472) in memoriam revocans.

Luzon, Subprov. Benguet, mons Pulog, alt. circ. 2100 m s. m., *For. Bur. 16355 Curran, Merrill, Zschokke.* Ad corticem arboris.

Subg. 3. **Phaeographis** (Müll. Arg.) Vain.

Sect. 1. **Chiographa** Leight. (**Melanobasis** Müll. Arg.).

44. **Gr. dendroides** (Leight.) Vain. *Platygrapha* Leight. Lich. Ceylon (The Transact. Journ. Bot. Lond. XXVII. 2, 1870) 22. *Phaeographis* Müll. Arg. Lich. Beitr. (Fl. 1882) n. 455. Haud *Gr. dendroidea* Leight. Lich. Amaz. (1866) 452, Nyl. Lich. Nov.-Gran. Addit. (1867) 331 (Fl. 1876 p. 575).

Thallus tenuis, laevigatus aut levissime verruculoso-inaequalis, olivaceo-pallescens aut cinereo- vel albido-glaucescens, leviter nitidus, KHO rubescens, hypothallo nigricante partim limitatus. Apothecia long. 26—0.5, lat. 1—0.3 mm, sparsa aut in series ramosas aggregata, dichotome repetito-ramosa aut irregulariter vel subdendritice ramosa aut p. p. simplicia, saepe leviter flexuosa, prominentia, apicibus rotundatis aut obtusis aut raro p. p. sensim attenuatis, margine modice incrassato aut raro sat tenui, vulgo discum modice superante, undulato-flexuoso aut subintegro, haud striato, subalbido aut pallescente, KHO leviter rubescente aut parum reagente, interdum subzeorino. Hypothecium crassum, fusconigrum aut olivaceo-fuligineum. Parathecium fusconigrum, tenue, amphithecio thallino obductum, lateribus basi constrictis. Discus apertus, planus, cinereo- aut caesio-pruinosus. Epithecium fusconigrum aut raro pallidum. Sporae 8:nae, distichae, fuscescentes aut fumoso-obscuratae, oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice

obtuso, 5-septatae, loculis lenticularibus, long. 0.018—0.030, crass. 0.007—0.010 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15044*. Polillo, *Bur. Sci. 6999 Robinson*. Palawan, Taytay, *Merrill 9060*. Ad corticem arboris n. 15041 et *Pongamiae mitis* aliarumque arborum. Biliran, *Bur. Sci. 18428 McGregor*, ad corticem *Rhizophoracearum*.

45. **Gr. pongamiae** Vain. sp. nov.

Apothecia immersa, margine leviter emergente, sat tenui, integro, discum vulgo leviter superante, lateribus basim versus sensim dilatatis aut abruptis, disco pruinoso, cinerascente aut livido. — Thallus pallidus, KHO dilute rubescens. Apothecia long. 5—0.6, lat. 0.6—0.3 mm, sat crebra, saepe in series aggregata, leviter flexuosa, varie ramosa. Hypothecium fusco- aut olivaceo-nigricans, circ. 0.13 mm crassum. Parathecium fusco-nigricans, tenue, superne tenuissimum albidumve. Epithecium fusconigrum. Sporae 8:nae, ovoideo-oblongae aut oblongae, 5-septatae, long. 0.024—0.027, crass. 0.007—0.009 mm. — Forsan est autonoma species, praecedenti affinis.

Palawan, Taytay, *Merrill 9064* pr. p. Ad corticem *Pongamiae mitis* in littore. Postea collecta etiam in Biliran, *Bur. Sci. 18434, 18448, 18453 McGregor*, ad corticem *Rhizophoracearum*.

46. **Gr. benguetensis** Vain. sp. nov.

Apothecia prominentia, margine modice incrassato, integro, discum modice superante, lateribus abruptis aut basi constrictis, disco denudato, fusco-nigricante aut tenuissime subpruinoso et livido-fuscescente. — Thallus glaucescenti- aut pallido-albidus, KHO dilute lutescens, maculis rubescentibus. Apothecia long. 6—0.5, lat. 0.6—0.3 mm, sparsa aut in series ramosas aggregata, saepe leviter flexuosa, varie ramosa aut partim simplicia. Hypothecium fusconigrum, crassum (0.12—0.13 mm). Parathecium 0.02—0.06 mm crassum, saepe medio tenuius et superne incrassatum, superne strato subthallino tenuissimo obductum, quare cinereum et margo apothecium subzeorinum, lateribus amphithecio thallino sat tenui obductis. Hy-

menium resinoso-guttulosum, circ. 0.18 mm crassum. Epithecium fuscum aut rarius pallidum. Sporae 8:nae, distichae, 5-septatae, long. 0.021—0.028, crass. 0.008—0.010 mm. — Forsan est autonoma species, disco apotheciorum subnudo et reactione thalli a *Gr. dendroide* differens.

Luzon, Subprov. Benguet, Pauai, *Merrill 6648*. Ad corticem arboris.

47. **Gr. astroidea** Vain. sp. nov.

Thallus tenuis aut sat tenuis, leviter verruculoso-inaequalis aut sat laevigatus, glaucescenti- aut subalbido-pallidus, leviter nitidus, KHO dilute rubescens, hypothallo indistincto. Apothecia long. 20—1, lat. 0.5—0.2 mm, dichotome repetito-ramosa, in series astroideas aut partim sat irregulariter radiatas aggregata, aut parce simplicia, saepe leviter flexuosa, thallo immersa aut demum leviter emergentia, apicibus obtusis aut rotundatis aut sensim attenuatis, margine tenui aut sat tenui, saepe demum levissime e thallo prominente, basin versus sensim dilatato, discum haud aut levissime superante, integro, subalbido aut thallo concolore, KHO dilute rubescente aut parum reagente. Hypothecium fusconigrum, crassum. Parathecium fuscum, sat tenue, amphithecio thallino, albido obductum, apertum. Discus apertus, planus aut concavus, lividus, tenuiter pruinosus, demum transversim fissus. Epithecium fuscescens. Sporae 8:nae, distichae, fumoso-fuscescentes, oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, 5-septatae, loculis lenticularibus, long. 0.021—0.027, crass. 0.007—0.009 mm, membrana haud gelatinosa. — Affinis *Gr. dendroidi* (Leight.).

Palawan, Taytay, *Merrill 9063*. Ad corticem *Pongamiae mitis* in littore.

48. **Gr. luzonensis** Vain. sp. nov.

Thallus tenuis aut sat tenuis, leviter verruculoso-inaequalis aut sat laevigatus, sordide aut pallescenti-albidus, leviter nitidus, KHO parum reagens, hypothallo indistincto. Apothecia long. 10—0.4, lat. 0.8—0.3 mm, simplicia aut rarius parce ramosa, saepe in series irregulares aggregata, saepe leviter flexuosa, prominentia aut tantum leviter emergentia, apicibus obtusis aut rotundatis aut sensim

attenuatis, margine sat tenui aut modice incrassato, latere abrupto aut rarius basi constricta aut basim versus sensim dilatato, interdum demum zeorino, discum superante, thallo concolore aut margine paratheciali cinereo-pruinoso, KHO parum reagente. Hypothecium crassum, fusconigrum. Parathecium tenue, fuscescens aut fuscescenti-pallidum, in margine nigricans, apertum aut primum hiascens, amphithecio thallino vulgo omnino obductum. Discus apertus aut primum angustus, sat tenuiter cinereo-pruinosus, planus aut concavus, integer. Hymenium circ. 0.14 mm crassum. Epithecium fuscescens aut pallidum. Sporae 8:nae, distichae, fumoso-obscuratae, fusiformes aut oblongae aut subovoideae, apicibus obtusis aut acutis acuminatisve aut rarius rotundatis, 5-septatae, loculis lenticularibus, long. 0.038—0.026, crass. 0.013—0.009 mm, membrana haud gelatinosa, loculo uno mediano interdum septo longitudinali diviso. — Affinis *Gr. dendroidi*, at sporis paullo majoribus, reactione thalli, apotheciis simplicioribus minoribusque ab ea differens.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8578, 8660 McGregor.* Ad corticem arboris.

49. **Gr. labuana** (Nyl.) Vain. *Glyphis* Nyl. Lich. Jap. 115, Sert. Lich. Labuan 14.

Thallus tenuis, laevigatus, pallescens, leviter nitidus aut sat opacus, KHO lutescens deindeque fulvescens aut aurantiaco-fulvescens, partim hypothallo nigricante limitatus. Apothecia long. 8—1, lat. 1.2—0.5 mm, simplicia aut rarius furcata, sparsa aut interdum in series aggregata, saepe flexuosa, bene elevata, alt. 0.6—0.3 mm, apicibus rotundatis aut raro obtusis, basi bene constricta, margine sat crasso, thallo concolore (eodemque modo reagente), interdum zeorino, discum leviter aut parum superante, praesertim latere interiore bene tremuloso-crispulo. Discus apertus, planus, leviter aut parum impressus, caesio- aut cinereo-pruinosus. Hypothecium crassum, fusconigrum. Parathecium circ. 0.10—0.16 mm crassum, fusconigrum, patens, amphithecio thallino obductum. Hymenium circ. 0.08—0.100 mm crassum. Epithecium decoloratum aut pallidum. Sporae 8:nae, distichae, fumoso-obscuratae aut fuscescentes,

oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, 5-septatae, loculis lenticularibus, long. 0.017—0.019, crass. 0.006—0.007 mm, membrana haud gelatinosa. Huic proxime affinis est *Gr. megistocarpa* (Leight.), Lich. Ceyl. 178, apotheciis et sporis majoribus a *Gr. labuana* differens. — Planta nostra ad var. *integram* Vain. pertinet, apotheciis fissuris transversis haud ruptis a specimine orig. n. 7122 in herb. Nyl. differentem.

Palawan, Taytay, *Merrill 9030*. Ad corticem arboris.

50. **Gr. semiglyphis** Vain. sp. nov.

Thallus tenuis, laevigatus, stramineo- aut cinereostramineo-pallescens, leviter nitidus, KHO parum reagens (dilute olivaceoroseus), hypothallo indistincto. Apothecia long. 2—0.4, lat. 0.5—0.3 mm, vulgo 2—10 confluentia vel crebre aggregata, difformia, simplicia aut irregulariter breviterque ramosa, saepe flexuosa curvatave, leviter prominentia emergentiave, apicibus rotundatis aut obtusis, basim versus sensim dilatata aut abrupta, margine sat tenui aut modice incrassato, discum leviter superante, thallo concolore, KHO parum reagente, latere interiore parcissime tremuloso-crispulo. Discus apertus, planus, leviter impressus, cinereo- aut caesio-pruinosus, inaequaliter dilatatus. Parathecium nigrum, tenue, patens, amphithecio thallino obductum. Hypothecium superne albidum, inferne nigricans, crassum. Epithecium sordide cinerascens. Sporae 8:nae, distichae, fumoso-fuscescentes, oblongae, altero apice rotundato, altero obtuso, 5-septatae, loculis lenticularibus, long. 0.017—0.024, crass. 0.005—0.007 mm, membrana haud gelatinosa. — Affinis *Gr. labuanae*, a qua apotheciis minoribus, irregulariter confluentibus et reactione thalli differt.

Palawan, Taytay, *Merrill 9044*. Ad corticem arboris.

51. **Gr. mitis** Vain. sp. nov.

Thallus sat tenuis, levissime verruculoso-inaequalis, glaucescenti-stramineo-pallescens, leviter nitidus, KHO sat bene rubescens (haud flavescens), hypothallo indistincto. Apothecia long. 3—0.5, lat. 0.1—0.3 (—0.4) mm, crebre aggregata confluentiaque, praesertim

subradiatim disposita, irregulariter aut radiatim ramosa, flexuosa, subimmersa aut parum emergentia, apicibus obtusis aut sensim attenuatis, margine discum leviter superante, sordide substramineo, KHO sat bene rubescente, leviter aut parum a thallo prominente, basin versus sensim dilatato, pseudostromata parum aut leviter prominentia, rotundato- aut oblongo-difformia irregulariaque indistincte limitata, formantia. Discus apertus, concavus aut planus, leviter impressus, inaequaliter dilatatus, fusconigricans, nudus. Parathecium fusconigrum, tenue, patens, amphithecio thallino obductum. Hypothecium fusconigrum, crassum. Epithecium fuscescens. Sporae 8:nae, distichae, fumoso-obscuratae aut olivaceo-fuscescentes, ovoideo-oblongae, altero apice rotundato, altero obtuso, 5—3-septatae, loculis lenticularibus, long. 0.019—0.023, crass. 0.007—0.008 mm, membrana haud gelatinosa. — *Gr. cinchonarum* (Fée) pseudostromatibus distinctioribus ab hac specie differt, at habitu ei subsimilis est.

Palawan, Taytay, *Merrill 9045*, *9064* pr. p. Ad corticem *Pongamiae mitis* in littore.

52. **Gr. asterella** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis aut laevigatus, stramineo-glaucescens aut stramineo-pallescens, leviter nitidus, KHO parum reagens, linea hypothallina nigricante partim limitatus. Apothecia long. 3—0.4, lat. 0.2—0.15 mm, subradiatim aggregata, radiatim et dichotome ramosa, interdum curvata, leviter prominentia, apicibus sensim attenuatis aut obtusis, margine tenui, thallino aut zeorino, discum leviter superante, KHO parum reagente, leviter a thallo prominente, basin versus sensim dilatato aut sat abrupto, pseudostromata nulla distincta formantia. Discus rimaeformis aut demum apertus, concavus aut planus, leviter impressus, nigricans, nudus. Parathecium fuligineum, KHO subpurpureum, tenue. Hypothecium crassius, fuligineum, KHO subpurpureum. Epithecium fuligineum, KHO subpurpureum. Paraphyses simplices, gelatinosae. Sporae 8:nae, distichae, nigricantes, oblongae aut ovoideo-oblon-

gae, apicibus rotundatis, 5-septatae, loculis lenticularibus, long. 0.022—0.026, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Habitu subsimilis *Gr. tricosulae* (Nyl.).

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15049*. Ad corticem arboris n. 15041.

53. **Gr. ceratoides** Vain. sp. nov.

Thallus tenuis aut sat tenuis, laevigatus aut leviter verruculoso-inaequalis, sordide aut cinerascenti- vel glaucescenti-albidus, leviter nitidus, KHO leviter reagens (subfulvescens aut dilute fulvo-roseus), hypothallo indistincto. Apothecia long. 10—0.4, lat. 0.2—0.4 mm, dendroideo- aut radiato-ramosa, radiis increbre iteratim dichotome ramosis, in series tales etiam aggregata confluentiave, aut parcius simplicia, saepe leviter flexuosa, leviter emergentia aut rarius thallo immersa, apicibus obtusis aut rotundatis, margine sat tenui, thallino, verruculoso-inaequali aut sat laevigato, aut zeorino, pseudostromata nulla formantia, basi vulgo leviter constricta. Discus apertus, planus aut rarius concavus, parum aut leviter impressus, nigricans, nudus. Parathecium fuscescens, tenue. Hypothecium circ. 0.040 mm crassum, fusconigrum aut fuscescens, superne pallidum. Hymenium circ. 0.080 mm crassum. Epithecium fuscescens. Sporae 8:nae, distichae, olivaceo-fuscescentes, ellipsoideae, apicibus obtusis aut rotundatis, 3-septatae, long. 0.010—0.011, crass. 0.005 mm, membrana haud gelatinosa.

Luzon, Subprov. Benguet, Pauai, *Merrill 6654*. Ad corticem arboris.

54. **Gr. sericea** (Eschw.) Vain. Catal. Velw. Afr. Pl. II 2 Lich. (1901) 439, Fl. Koh Chang Lich. 362. *Phaeographis* Müll. Arg., Fl. 1888 p. 522. *Leiogramma sericeum* Eschw. Mart. Fl. Bras. 99.

Thallus tenuis, albidus aut glaucescenti-albidus, laevigatus, leviter nitidus, KHO parum reagens, linea hypothallina nigricante partim limitatus. Apothecia thallo immersa, long. 4—0.2 mm, confluentia aggregataque, acervulos formantia 4—1 mm latos, irregulares difformesque, subradiatim et irregulariter ramosa, radiis vulgo numerosis, 0.15—0.1 mm latis, flexuosis, in medio apothecii

saepe fissura disjunctis contiguisque, juvenilia saepe margine thallino, tenui, leviter prominente instructa, apicibus acutis aut obtusis. Discus apertus, planus aut concavus, tenuiter cinereo- aut livido-pruinosus. Parathecium fuscescens, tenue. Hypothecium fuscum, comparate crassum. Epithecium pallidum. Sporae 8:nae, distichae, fumoso-fuscescentes, ovoideo-oblongae, altero apice rotundato, altero obtuso, 3-septatae, loculis lenticularibus, long. 0.015, crass. 0.007 mm, membrana haud gelatinosa. — Haec descriptio ad specimen n. 9048 spectat.

Palawan, Taytay, *Merrill 9048*. Ad corticem arboris in littore.

55. **Gr. dilatata** Vain. sp. nov.

Forsan non est variatio *Gr. sericeae*, apotheciis latioribus magisque emergentibus ab ea differens. — Thallus tenuis, pallido-fuscescens, leviter nitidus, laevigatus, KHO haud aut parum reagens, hypothallo nigricante partim limitatus. Apothecia immersa aut leviter emergentia, confluentia et aggregata, pseudostromata formantia 15—3.5 mm longa, difformia ramosaque, circ. 11—0.5 mm lata, subreticulato-diffracta, latere tenuiter albido-marginata, margine thallino, discum haud superante, partim praerupto, KHO haud aut parum reagente, apicibus ramorum rotundatis (apothecia singula long. 15—0.5, lat. 1—0.5 mm, ramis flexuosis). Discus apertus, planus, tenuiter cinereo-pruinosus aut parce denudatus. Parathecium pallidum aut decoloratum. Hypothecium fuligineum, 0.090 mm crassum. Hymenium circ. 0.100—0.110 mm crassum. Epithecium fuscescens aut pallidum. Sporae 8:nae, subdistichae, fuscescentes, oblongae, apicibus rotundatis aut altero apice obtuso, 3-septatae, long. 0.015—0.018, crass. 0.006—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14661* pr. p. Ad corticem arboris n. 14650.

56. **Gr. Fénicis** Vain. sp. nov.

Thallus tenuissimus, pallidus, leviter nitidus, parum verruculoso-inaequalis, KHO passim rubescens (haud lutescens), partim haud

reagens, hypothallo nigricante partim limitatus. Apothecia immersa aut leviter emergentia, confluentia et pseudostromata formantia subrotundata, haud ramosa, diametro circ. 1—10 mm aut confluentia circ. 20 mm longa, rarissime ambitu radiata, haud thallodice limbata, creberrime reticulato-diffracta (apothecia singula long. 0.15—1, lat. 0.1—0.2 mm, rotundata aut elongata, simplicia aut ramosa, saepe flexuosa, immarginata aut margine proprio tenuissimo, discum haud superante, nigro). Discus apertus, concavus aut raro planus, tenuiter livido-pruinosus aut denudatus. Parathecium fuscofuligineum, tenue (circ. 0.010 mm). Hypothecium fusofuligineum, crassius (0.030—0.040 mm). Hymenium circ. 0.100—0.080 mm crassum, resinoso-guttulosum. Epithecium fusconigrum. Sporae 8:nae, distichae, fumoso-fuscescentes, oblongae, apicibus rotundatis aut obtusis, 3-septatae, loculis lenticularibus, long. 0.017—0.018, crass. 0.007—0.008 mm, membrana haud gelatinosa. — A proxima *Gr. Féei* (Meissn.) pseudostromatibus haud albido-marginatis, minus prominentibus differt.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12783 E. Fénix.* Ad corticem arboris.

57. **Gr. Féei** (Meissn.) Vain. *Chiodecton* Fée Ess. Suppl. 51, tab. XXXVI f. 7. *Sarcographa* Müll. Arg. Graph. Fecan. 63.

Thallus tenuis, laevigatus, pallido-glaucescens, leviter nitidus, KHO rubescens (haud lutescens). Apothecia confluentia et creberrime aggregata, pseudostromata formantia subrotundata aut difformia, haud ramosa, long. circ. 8—1, lat. 4—0.5 mm, interdum confluentia, creberrime reticulato-diffracta, limbo instructa thallode, albido, opaco, KHO haud aut parum reagente, modice prominentia, applanata, latere praerupto (apothecia singula long. 1—0.1, lat. 0.1 mm, rotundata aut elongata, simplicia aut ramosa, saepe flexuosa, margine proprio tenuissimo, nigro, discum haud aut parum superante). Discus apertus, planus aut leviter concavus, tenuiter cinereo-pruinosus (distinctius in statu humido) aut raro denudatus nigricansque. Parathecium fuscofuligineum, tenue (circ. 0.010 mm). Hypothecium fuscofuligineum, crassit. 0.025—0.090 mm. Hymenium

circ. 0.070 mm crassum. Epithecium fusconigrum aut partim dilute fuscescens. Sporae 8:nae, distichae, olivaceo- aut fumoso-fuscescentes, oblongae, apicibus obtusis aut rodundatis, 3-septatae, long. 0.016—0.019, crass. 0.007 mm, membrana haud gelatinosa. — Habitu similis est *Gr. labyrinthicae*, quae sporis 5-septatis ab ea differt.

Luzon, Subprov. Nueva Vizcaya, *Dupax, Bur. Sci. 14314 McGregor.* Biliran, *Bur Sci. 18449 McGregor.* Ad corticem arborum.

58. **Gr. labyrinthica** (Ach.) Vain. Fl. Koh Chang Lich. 363.

Thallus tenuis, laevigatus, glaucescens aut stramineo-glaucescens aut cinerascens, leviter nitidus, KHO sat bene aut leviter rubescens. Pseudostromata prominentia, applanata, alba, opaca, albido-limbata, KHO dilutius reagentia, rotundata aut difformia, haud ramosa, lateribus praeruptis aut rarius sensim dilatatis. Apothecia in pseudostromatibus crebre aggregata confluentiaque, saepe etiam seriata, sicca angulosa difformiaque, saepe fissuris separata circumscissaque, long. circ. 0.1—0.3, lat. circ. 0.1 mm, margine albido cinereove, tenui, saepe circumscisso, superficiem disci superante, haud prominente e pseudostromate. Discus apertus, concavus, impressus, tenuiter pruinosus aut denudatus. Hypothecia fuscofuliginea, crassa, partim confluentia. Parathecium fuscofuligineum, tenue. Epithecium fuscescens. Sporae 8:nae, distichae, fumoso-olivaceae aut dilute fuscescentes, 5—3-septatae, oblongae aut ovoideo-oblongae, apicibus rotundatis aut rarius altero apice obtuso, long. 0.014—0.021, crass. 0.006—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Rizal, *Bur. Sci. 16996, 19001 Ramos;* Subprov. Sorsogon, Irosin, *Elmer 14399, 14661.* Palawan, Taytay, *Merrill 9061.* Ad corticem *Pongamiae mitis*, arborum n. 14395 et 14650 aliarumque arborum.

Var. **quatuorseptata** Vain.

Sporae 3-septatae et nonnullae etiam 4-septatae, long. 0.014—0.019, crass. 0.005—0.007 mm. — Potius regressu a *Gr. labyrinthica*, quam a *Gr. Féei* evoluta.

Biliran, *Bur. Sci. 18427 McGregor.* Ad corticem arboris.

59. **Gr. verrucosa** Vain.

Thallus sat tenuis, verruculoso-inaequalis, pallido-glaucescens aut partim olivaceo-pallescens, leviter nitidus, KHO leviter rubescens, hypothallo fuscescente aut nigricante partim limitatus. Pseudostromata haud aut parum aut leviter prominentia, applanata, albida, opaca, haud aut saepius anguste albido-limbata, repando-rotundata aut difformia, long. circ. 6—1, lat. 4—0.5 mm, interdum confluentia, haud ramosa, saepe demum irregulariter aut subradiatim diffracta, KHO leviter rubescentia. Apothecia in pseudostromatibus crebre aggregata confluentiaque, interdum etiam seriata, long. 0.5—0.1, lat. 0.1 mm, simplicia aut parce ramosa, saepe flexuosa, strato albido separata aut partim contigua fissurisque separata, margine obscure cinerascente aut nigricante, tenui, superficiem disci superante, haud prominente e pseudostromate. Discus concavus, impressus, pruinosus aut denudatus, humidus latit. 0.09—0.10 mm. Hypothecium fuscofuligineum, 0.040—0.020 mm crassum. Parathecium fuscofuligineum, 0.015—0.005 mm crassum. Epithecium fuscescens. Sporae 8:nae, distichae, fumoso- aut olivacco-fuscescentes, 5—3-septatae, oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, long. 0.018—0.020, crass. 0.006—0.007 mm, membrana haud gelatinosa. — Forsan est variatio *Gr. labyrinthicae*, pseudostromatibus minus prominentibus, apotheciis partim longioribus et thallo inaequali ab ea differens. Secundum descriptionem huc pertinere videtur *Glyphis verrucosa* Mont. Syllog. Lich. 355, in Java lecta.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14632*. Ad corticem arboris n. 14623.

60. **Gr. hydrina** Vain. sp. nov.

Thallus modice incrassatus, leviter verruculoso-inaequalis, glaucescenti substramineo-pallescens, leviter nitidus, KHO rubescens, partim hypothallo nigricante limitatus. Apothecia thallo immersa, long. 0.1—2 mm aut longiora, lat. 0.1—0.35 mm, in series confluentia 35—1 mm longas, 0.35—0.2 mm latas, hydroideo-radiatas

aut rarius dendroideo-ramosas, radiis dichotome repetito-ramosis, flexuosis, apicibus obtusis aut rotundatis, uniseriatim aut parcissime biseriatim disposita, margine proprio tenui subcinerascente aut rarius nigricante, thallum haud superante, saepe circumscisso, margine thallino thallo paululum pallidiore, KHO rubescente, ceterum parum distincto aut jugam basim versus sensim dilatatam, levissime e thallo prominentem formante. Discus bene impressus, concavus, nigricans. Hypothecium fuscofuligineum, crassum. Parathecium fuscofuligineum, tenue. Epithecium fuscescens. Sporae 8:nae, distichae, olivaceae aut fumoso-fuscescentes, 5-septatae, oblongae aut ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, long. 0.024—0.028, crass. 0.009 mm, membrana haud gelatinosa. — Affinis *Gr. labuanae* (Nyl.), cujus var. *composita* Vain. reactione thalli et apotheciis prominentibus minusque ramosis ab ea differt.

Palawan, Taytay, *Merrill 9051*. Ad corticem *Pongamiae mitis* in littore.

61. **Gr. articulata** Vain. sp. nov.

Thallus tenuis, laevigatus, glaucescenti-albidocinereus, leviter nitidus, KHO flavescens deindeque fulvescens, hypothallo indistincto. Apothecia prominentia, long. 7—0.2, lat. 0.7—0.2 mm, in series confluentia 19 mm longas aut breviores, hydroideo-radiatas aut dendroideo-ramosas, radiis saepe dichotome repetito-ramosis, flexuosis, apicibus rotundatis aut obtusis aut sensim attenuatis, uniseriatim disposita, basim versus sensim dilatata aut raro partim latere praerupto, margine thallino modice incrassato aut sat tenui, thallo concolore, KHO dilute fulvescente, discum bene superante, etiam margine proprio nigricante, tenui, item discum superante, passim distincto. Discus bene impressus, concavus, livido-nigricans, tenuissime pruinosus, latit. 0.3—0.15 mm. Hypothecium fuscofuligineum, 0.050—0.030 mm crassum. Parathecium fuscofuligineum, 0.030—0.040 mm crassum. Epithecium fuscescens aut sordide obscuratum. Sporae 8:nae, distichae, fumoso-fuscescentes, 5-septatae, oblongae aut ovoideo-oblongae, altero apice rotundato, altero ob-

tuso, long. 0.027—0.032, crass. 0.009—0.010 mm, membrana haud gelatinosa. — Affinis *Gr. labuanae* (Nyl.) ejusque var. *compositam* Vain. (n. 7120, 7119 in herb. Nyl.) in memoriam revocans, quae autem pseudostromatibus latere praeruptis aut basi leviter constrictis ab ea differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15081* pr. p. Ad corticem arboris n. 15074.

62. **Gr. impressopunctata** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis, cinereo-glaucescens, leviter nitidus, KHO parum reagens (dilutissime subroseus), hypothallo nigricante partim limitatus. Pseudostromata bene prominentia, alt. circ. 0.4—0.3 mm, applanata, thallo concoloria, leviter nitida, thallino-limbata, KHO dilute rosea, long. 14—3, lat. 1—0.8 mm, elongata, simplicia aut raro parce breviterque ramosa, flexuosa curvatave, lateribus praeruptis aut basi leviter constricta. Apothecia in pseudostromatibus confluentia aut crebre aggregata, irregulariter disposita, rotundata difformiave aut raro oblonga, long. 0.1—0.5, lat. 0.1—0.15 (—0.5) mm, fissuris haud separata, margine cinerascente aut raro obscure cinereo, tenui, superficiem disci superante (at haud pseudostromatis). Discus apertus, concavus, impressus, nigricans, nudus, haud pruinosus. Hypothecium fuscofuligineum, bene incrassatum. Parathecium fuscofuligineum, tenue. Hymenium circ. 0.100 mm crassum, resinosoguttulosum. Epithecium fusconigrum. Sporae 8:nae, distichae, fuscescentes aut fumoso-fuscescentes, 5-septatae, oblongae, altero apice obtuso, altero rotundato, long. 0.017—0.021, crass. 0.005—0.007 mm, membrana haud gelatinosa. — Intermedia est inter *Gr. labyrinthicam* et *Gr. heteroclitam*, habitu posteriori similis, at sporis 5-septatis et discis impressis ab ea differens.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6254* pr. p. Ad corticem arboris.

63. **Gr. difformis** Vain. sp. nov.

Thallus sat tenuis, laevigatus, cinereo-glaucescens, KHO parum reagens (olivaceo-fuscescens), hypothallo nigricante partim limitatus.

Pseudostromata prominentia, applanata, thallo concoloria, leviter nitida, thallino-limbata, KHO intense lutescentia, demum fulvescentia vel aurantiaco-fulvescentia, long. 10—0.8, lat. 1.3—0.6 (—2.5) mm, elongata aut raro rotundata, vulgo irregulariter confluentia, irregulariter ramulosa aut rarius simplicia, flexuosa, basi constricta. Apothecia in pseudostromatibus confluentia, irregulariter disposita, vulgo oblonga aut rarius rotundata difformiave, long. 0.5—0.1, lat. 0.1—0.15 mm, saepe fissuris parum distinctis separata, margine tenui, cinereocaesio-pruinoso aut raro denudato et cinereo-nigricante, superficiem disci leviter aut levissime superante, e pseudostromate haud prominente. Discus concavus, apertus aut vulgo parum conspicuus angustissimusque, leviter aut parum impressus, cinereocaesio-pruinosus aut raro denudatus nigricansque. Hypothecium fuscofuligineum, bene incrassatum. Parathecium fuscofuligineum, tenue. Hymenium resinosoguttulosum. Epithecium fuscescens. Sporae 8:nae, distichae aut rarius monostichae, fuscescentes, 5-septatae, oblongae, altero apice rotundato, altero obtuso, long. 0.022—0.027, crass. 0.007 mm, membrana haud gelatinosa. — Inter *Gr. labyrinthicam* et *Gr. heteroclitam* est intermedia, habitu posteriori magis similis, sporis 5-septatis et reactione pseudostromatum ab ea differens.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14657* pr. p. Ad corticem arboris n. 14650.

64. **Gr. heteroclita** (Mont.) Vain. *Actinoglyphis* Mont. Cent. III (Ann. Sc. Nat. Bot. sér. 2, XIX) 83. *Glyphis* Mont. Cr. Guyan. (l. c. sér. 3 XVI) 79; Nyl. Lich. Jap. 114. *Sarcographa* Zahlbr. Flecht. Neuguin. 19. *Actinoglyphis Leprieurii* Mont. Syll. Lich. 355, haud *Opegrapha* Mont. l. c. 348 (*Graphis* Nyl. Enum. Gén. Lich. 130, *Sarcographa* Müll. Arg. Lich. Beitr. 1101).

Thallus sat tenuis aut modice incrassatus, laevigatus aut raro (in n. 8340) verrucoloso-inaequalis, cinereo- aut pallido-glaucescens aut raro (in n. 8340) albido-glaucescens, leviter nitidus, KHO leviter roseo-rubescens, hypothallo nigricante partim limitatus. Pseudostromata prominentia, applanata, albida aut thallo concoloria, leviter nitida, thallino-limbata, KHO leviter rubescentia, long. 15

—0.5, lat. 2—0.4 mm, elongata aut repando-rotundata, simplicia aut irregulariter vel dichotome repetito-ramosa vel dendroideo-ramosa, saepe flexuosa, lateribus praeruptis aut basi leviter constricta. Apothecia in pseudostromatibus confluentia aut partim crebre aggregata, interdum seriata, rotundata aut anguloso-difformia aut oblonga, saepe fissuris separata, long. 1—vix 0.1, lat. 0.5—vix 0.1 mm, margine albido aut obscure cinereo, tenui aut tenuissimo, superficiem disci et pseudostromatis haud superante. Discus apertus, planus, cinereo-pruinosus aut obscure cinereus subpruinosusque, haud impressus. Hypothecium fuscofuligineum, crassum. Parathecium fuscofuligineum, tenue. Epithecium fusconigrum aut dilute fuscescens pallidumve. Hymenium circ. 0.140 mm crassum. Sporae 8:nae aut (in n. 8340 et 14653) 4:nae, submonostichae, olivaceo-fumosae aut fumoso-fuscescentes, 7—5-septatae (in eodem apothecio), oblongae aut ovoideo-oblongae, apicibus rotundatis aut obtusis, long. 0.017—0.037, crass. 0.008—0.012 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14653*, *14661* pr. p. Mindanao, Subprov. Zamboanga, ad flumen Basagan, *Merrill 8340*. Ad corticem arboris n. 14650 aliarumque arborum.

Sect. 2. **Platygramma** (Meyer) Vain.

65. **Gr. fulgurans** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, KHO crystallos rubros, aciculares formans (haud lutescens), leviter nitidus, hypothallo indistincto. Apothecia long. 3—0.5, lat. 0.3—0.15 mm, prominentia, irregulariter et subradiatim et dichotome ramosa et partim subradiatim irregulariterve aggregata, ramis flexuosis aut sat rectis, apicibus obtusis aut acutis, margine thallino discum et thallum superante, latere abrupto. Discus angustus, apertus, impressus, nigricans, haud pruinosus. Perithecium basi deficiens, parathecio fuscescente, inferne sordide fulvescente, sat tenui, labiis apertis, amphithecio thallino obductis. Epithecium fumoso-obscuratum. Sporae 8:nae, distichae, fumoso-obscuratae aut olivaceo-fuscescentes, oblongae, apicibus rotundatis, 3-septatae, loculis lenticularibus, long.

0.014—0.017, crass. 0.006—0.007 mm, membrana haud gelatinosa. — *Gr. subfulgurata* Nyl. americana huic subsimilis est, margine apotheciorum paullo minus prominente et perithecio albido ab ea differens.

Luzon, Subprov. Pampanga, San Esteban, *Merrill 4258*. Ad corticem *Nipae fruticantis*.

66. **Gr. isographoides** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO parum reagens (dilute rosco-fulvescens), hypothallo nigricante partim limitatus. Apothecia long. 2—0.5, lat. 0.4—0.2 mm, emergentia aut leviter prominentia, sparsa, simplicia aut raro subfurcata, recta aut curvata, apicibus acutis aut obtusis rotundatisve, margine tenui, thallino aut zeorino, discum haud aut parum superante, latere praerupto. Discus apertus, planus, nigricans, haud pruinosus. Perithecium fuligineum, dimidiatum basique apothecii deficiens, labiis apertis. Epithecium fuscescens. Paraphyses simplices, tubulo gelatinam hymenialem percurrente, apice leviter incrassatae. Sporae 8:nae, distichae, fuscescentes, oblongae aut ellipsoideae, apicibus rotundatis aut altero apice obtuso, 3-septatae, loculis lenticularibus, long. 0.015—0.020, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Proxima est *Gr. inconspicuae* Fée, quae apotheciis angustioribus longioribusque ab ea differt.

Borneo, Sarawak, Kuching, *J. C. Moulton 13* pr. p. Ad ramulos *Urandrae bracteatae*.

67. **Gr. ramosoconnexa** Vain. sp. nov.

Thallus sat tenuis, levissime verruculoso-inaequalis, albido aut glauco-pallescens, leviter nitidus, KHO leviter reagens (subroseus), hypothallo indistincto. Pseudostromata haud prominentia, vage subalbido-limitata, KHO parum aut levissime rubescentia, difformia, saepe repando- aut lobato-rotundata, long. 7—1, lat. 6—0.5 mm. Apothecia irregulariter subradiato-ramosa, ramis 0.2—0.15 mm latis, flexuosis, contiguis, fissuris separatis et crebre reticulato-connexis, haud distincte marginatis, disco plano aut levissime concavo, aperto,

lividofusco-nigricante, tenuissime pruinoso, superficiem pseudostromatis et thalli haud superante. Parathecium tenue, crass. circ. 0.005—0.010 mm, fulvo-fuscescens, labiis patentibus. Hypothecium inferne tenuiter fulvo-fuscescens, superne crasse (0.080—0.120 mm) fulvescens, sine limite distincto in hymenium transiens, KHO non reagens. Hymenium circ. 0.080 mm crassum, parum resinoso-guttulosum. Epithecium olivaceo-fuscescens. Sporae 8:nae, distichae, fumoso-obscuratae aut olivaceo-fuscescentes, ovoideo-oblongae, altero apice rotundato, altero acutato, 3-septatae, long. 0.013—0.020, crass. 0.005—0.008 mm, membrana haud gelatinosa. — Affinis est *Gr. sericeae* (Eschw.).

Palawan, Taytay, *Merrill 9058*. Ad corticem *Pongamiae mitis* in littore.

Sect. 3. **Pelioloma** Müll. Arg.

68. **Gr. phlyctidea** Vain. sp. nov.

Thallus tenuis, laevigatus, pallido- aut stramineo-glaucescens, leviter nitidus, KHO fuscescens aut rufescens, hypothallo indistincto. Apothecia leviter prominentia aut emergentia, long. 2.5—0.6, lat. 0.8—0.5 mm, simplicia aut parce ramosa, rotundata aut oblonga aut difformia, recta aut curvata, apicibus rotundatis aut obtusis, margine albo, opaco, KHO parum reagente, sat tenui, verruculoso-inaequali, parce subgranuloso, irregulari, prominente, discum et thallum superante, latere praerupto aut basi leviter constricta, confluentia, acervulos et series formantia 8—1 mm longa et 2—0.5 mm lata. Discus apertus, impressus, caesius aut pallido-cinereus, pruinosus. Perithecium hypotheciumque albidum, KHO non reagens, labiis patentibus hiantibusve. Epithecium sordide pallidum. Sporae 8:nae, monostichae, fuscescentes, oblongae aut ovoideo-oblongae, apicibus obtusis aut altero apice rotundato, long. 0.012—0.020, crass. 0.005--0.008 mm, septis transversis 3 aut 2—1, loculis lenticularibus, membrana haud gelatinosa. — Habitu subsimilis est *Gr. syngraphizanti* Wright (in Hue Lich. Exot. 312), quae secund. herb. Nyl. disco minore, fere punctiformi et sporis

5-septatis ab ea differt. Minus affines sunt *Gr. submirescens* Nyl. et *Gr. leprosulans* (Müll. Arg.).

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14646.* Ad corticem arboris n. 14644.

Subg. 4. **Scolaecospora** Vain.

Sect. 1. **Solenographa** (Mass.) Vain.

69. **Gr. marginifera** Vain. sp. nov.

Thallus tenuis, laevigatus aut leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO sordide dilute roseus, hypothallo nigricante partim limitatus. Apothecia sat crebra, prominentia, long. 4—0.8, lat. 0.4—0.2 mm, simplicia aut raro confluenti-furcata, curvata aut flexuosa aut sat recta, apicibus obtusis aut sat acutis, basi leviter constricta. Perithecium fuligineum, integrum, labiis conniventibus clausisque, laevigatis aut rarius demum stria una tenuissima instructis, vertice 0.25—0.2 (—0.15) mm lato denudatis, ex amphithecio thallino modice incrassato, latera perithecii obtegente, leviter aut parum prominentibus. Discus rimaeformis, inconspicuus. Hymenium albidum, haud resinoso-guttulosum. Epithecium decoloratum. Sporae 8:nae aut abortu pauciores, decolores, fusiformi-elongatae, rectae, apicibus obtusis, jodo violascentes, long. 0.060—0.100, crass. 0.010—0.011 mm, septis transversis 17—21, membrana haud gelatinosa. — Huic proxime affinis est *Gr. marginata* Mont. (Syllog. Lich. 349, Mont. et V. d. Bosch Lich. Jav. 44), quae secundum specim. orig. n. 7158 in herb. Nyl. apotheciis instructa est 1.5—3 mm longis, 0.8—1 mm latis, basi demum constrictis, vertice perithecii nigro, nudo, haud prominente, lateribus amphithecio thallino crasso obductis, sporis long. 0.075—0.080, crass. 0.010—0.011 mm, at diversa est *Opegrapha marginata* Raddi (Eschw. Fl. Bras. Lich. 81).

Luzon, Subprov. Benguet, alt. 1500 m, *Merrill 7958* pr. p. Ad corticem arboris.

70. **Gr. tonglonensis** Vain. sp. nov.

Thallus sat tenuis, laevigatus aut leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO sordide dilutissime roseus, hypothallo

nigricante partim limitatus. Apothecia sparsa, prominentia, long. 7—0.5, lat. 0.7—0.4 mm, simplicia, vulgo flexuosa curvatave, apicibus obtusis rotundatisve, basi constricta. Perithecium fuligineum, integrum, labiis conniventibus clausisque aut demum parum hiantibus, laevigatis, vertice 0.4—0.2 mm lato denudatis, ex amphithecio thallino modice incrassato, latera perithecii obtegente, leviter aut parum prominentibus. Discus rimaeformis, inconspicuus aut angustissimus, nigricans vel lividus, impressus. Epithecium decoloratum. Sporae 8:nae, decolores, fusiformes, apicibus obtusis, leviter curvatae aut rectae, jodo violascentes, long. 0.040—0.046, crass. 0.008 mm, septis transversis 10—13, membrana haud gelatinosa. — *Gr. margiuiferae* habitu simillima, apotheciis paullo latioribus, perithecio laevigato et sporis minoribus ab ea differens.

Luzon, Subprov. Benguet, mon Tonglon, *Merrill 7985*. Ad corticem arboris.

71. **Gr. supernata** Vain. sp. nov.

Thallus sat tenuis aut crassitudine mediocris, sat laevigatus, albido-glaucescens, leviter nitidus, KHO parum reagens, hypothallo nigricante limitatus. Apothecia sat crebra, prominentia, long. 7—0.3, lat. 0.3—0.2 mm, simplicia aut raro ramis 2—1 instructa, vulgo flexuosa curvatave, apicibus sensim attenuatis emergentibusque aut obtusis rotundatisve et prominentibus, lateribus praeruptis. Perithecium fuligineum, integrum basique crassum, labiis conniventibus clausisque, laevigatis, vertice 0.25 0.15 mm lato denudatis, ex amphithecio thallino tenui, latera perithecii anguste obtegente, bene prominentibus aut interdum amphithecio nullo conspicuo. Discus rimaeformis, inconspicuus. Hymenium haud guttulosum, crass. circ. 0.060—0.070 mm, epithecio fuscescente, ceterum decoloratum. Paraphyses simplices, gelatinosae, apice saepe leviter incrassatae. Sporae 8:nae, polystichae, decolores, fusiformes, apicibus obtusis, saepe attenuatis, jodo violascentes, long. circ. 0.050—0.040, crass. 0.007—0.008 mm, septis transversis circ. 17—11, loculis cylindrico-lenticularibus, membrana haud aut parum

gelatinosa. — Facie externa *Gr. anfractuosam* Eschw. in memoriam revocans.

Luzon, Subprov. Benguet, Pauai, *E. B. Copeland 1362.* Ad corticem arboris.

72. **Gr. subangustata** Vain. sp. nov.

Thallus tenuis, sat laevigatus, glaucescens aut albido-glaucescens, leviter nitidus, KHO non reagens, linea nigricante hypothallina partim limitatus. Apothecia sat sparsa, bene prominentia, long. 7—0.5, lat. 0.4—0.25 mm, simplicia aut raro parce ramosa, vulgo flexuosa aut rarius curvata, apicibus obtusis aut rotundatis, lateribus praeruptis aut sat praeruptis. Perithecium fuligineum, integrum, interdum basi tenuius, labiis conniventibus clausisque aut parum hiantibus, vertice 0.3—0.15 mm lato denudato, ex amphithecio thallino tenui, latera perithecii obtegente, haud aut leviter prominentibus, 1- aut raro 2-striatis aut primum laevigatis, striis vulgo cinerascenti-obvelatis aut partim denudatis, etiam margine interne angustissime cinerascenti-obvelato aut denudato. Discus rimaeformis, impressus, inconspicuus. Epithecium partim fuligineum. Sporae 8:nae aut 4:nae, decolores, elongatae, apicibus obtusis aut altero apice rotundato, septis transversis 13—20, loculis lenticularibus, long. 0.060—0.100, crass. 0.010—0.015 mm, jodo violascentes, membrana haud gelatinosa, sat rectae. — Affinis est *Gr. angustatae* Eschw., quae apotheciis minus elevatis angustioribusque ab ea differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14443* pr. p., *15030* pr. p. Ad corticem arborum n. 14436, 15028.

73. **Gr. ficicola** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis aut sat laevigatus, albidus, sat opacus aut parum nitidus, KHO non reagens, hypothallo nigricante parce limitatus. Apothecia sat sparsa, modice prominentia, long. 4—0.5, lat. 0.35—0.2 mm, simplicia aut furcata aut raro dichotome repetito-ramosa vel 4—5-radiata, saepe curvata flexuosave, apicibus sensim attenuatis subacutisve, lateribus praeruptis. Perithecium fuligineum, integrum, labiis conniventibus, demum hi-

antibus, vertice 0.2—0.1 mm lato, cinereo-nigricante, tenuissime pruinoso, ex amphithecio thallino tenui, latera perithecii obtegente, haud prominentibus, primum diu laevigatis, demum stria una tenuissima instructis. Discus leviter impressus, rimaeformis aut vulgo demum anguste apertus, concavus aut planiusculus, livido-fuscescens aut cinereo-nigricans, tenuiter aut tenuissime pruinosus. Epithecium fuscescens aut pallidum. Sporae 8:nae, decolores, oblongae aut fusiformi-oblongae, vulgo rectae, apicibus obtusis aut altero apice rotundato, septis transversis 8—5, loculis lenticularibus, long. 0.028—0.016, crass. 0.008—0.007 mm, jodo violascentes, saepe strato gelatinoso indutae. — Affinis est *Gr. angustatae* Eschw., disco apotheciorum demum anguste aperto et tenuiter pruinoso et sporis gelatinosis minoribusque ab ea differens.

Luzon, Subprov. Laguna, Los Baños, *Baker 545* pr. p. Ad corticem *Fici hauili*.

74. **Gr. dupaxana** Vain. sp. nov.

Thallus tenuissimus, laevigatus, albidus, leviter nitidus, KHO parum reagens, hypothallo nigricante limitatus. Apothecia partim sat crebra, modice prominentia aut fere emergentia, long. 4—0.5, lat. 0.35—0.1 mm, simplicia, leviter curvata aut sat recta, apicibus vulgo sat acutis, lateribus praeruptis. Perithecium fuligineum, integrum, basi tenuius, labiis conniventibus clausisque aut anguste subhiantibus, nudis aut raro basi amphithecio thallino tenui angustissime angusteve obductis, primum laevigatis, dein striis 2—3 (—1) tenuissimis nudisque instructis, vertice vulgo convexo. Discus rimaeformis, inconspicuus aut subinconspicuus, nigricans, nudus, impressus. Epithecium fuscescens. Paraphyses simplices, gelatinosae, apice leviter incrassatae. Sporae 8:nae, decolores, ovoideo-oblongae, rectae, altero apice acuto, altero obtuso aut rotundato, septis transversis 8—10, loculis lenticularibus, long. 0.025—0.039, crass. 0.007—0.008 mm, jodo violascentes, strato gelatinoso 0.0015—0.002 mm crasso indutae. — *Gr. angustata* Eschw. var. *denudata* Vain. (Addit. Lich. Antill. 158) ab hac specie differt apo-

theciis minus prominentibus, crebrioribus, magis flexuosis, vertice denudato perithecii 0.1 mm lato, thallo crebre verruculoso-inaequali.

Luzon, Subprov. Nueva Vizcaya, prope Dupax, *Bur. Sci. 14313 McGregor.* Ad corticem arboris.

75. **Gr. glauconigra** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis aut sat laevigatus, glaucescens, nitidus, KHO dilute rubescens (subroseus), haud primum lutescens, hypothallo nigricante partim limitatus aut hypothallo indistincto. Apothecia crebra, subimmersa aut leviter emergentia, long. 3—0.5 (0.2), lat. 0.25—0.2 (0.15) mm, simplicia aut raro furcata, sat recta aut rarius curvata aut raro subflexuosa, apicibus acutis aut obtusis. Perithecium fuligineum, integrum, labiis conniventibus, clausis aut anguste subhiantibus, subnudis aut saepe demum basi amphithecio thallino tenui, latere praerupto, anguste aut angustissime obductis, primum laevigatis, dein stria 1 (aut striis 2) sat tenui nudaque aut subvelata instructis, vertice 0.2 (—0.15) mm lato, ex amphithecio haud aut demum distincte prominentibus. Discus rimaeformis, impressus, inconspicuus aut parum conspicuus, nigricans aut raro cinerascens, haud pruinosus. Epithecium decoloratum. Paraphyses simplices, gelatinosae. Sporae 8:nae, polystichae, decolores, fusiformi-elongatae, apicibus obtusis, septis transversis 10—11, loculis lenticularibus, jodo violascentes, long. circ. 0.040, crass. 0.010 mm, membrana haud gelatinosa. — *Gr. nigroglauca* Leight. (Lich. Ceyl. 174) secundum specim. orig. in herb. Nyl. labiis perithecii laevigatis, anguste hiantibus et disco livido-fuscescente ab hac specie differt.

Negros, Bago, Hacienda Louisiana, *Merrill 6791.* Ad corticem *Pithecolobii dulcis.*

Sect. 2. **Eugraphis** Eschw.

76. **Gr. striatula** (Ach.) Nyl. Lich. Nov.-Gran. 467; Krempelh. Lich. Beccar. Born. 36; Müll. Arg. Graph. Feean. 34; Hue Lich. Exot. 238, 320; Vain. Étud. Lich. Brés. II 122, Fl. Koh Chang Lich. 366.

Thallus tenuis, albidus, KHO non reagens. Apothecia prominentia. Perithecium fuligineum, in lamina tenui rubricosum, basi tenue aut deficiens, labiis conniventibus, clausis, nudis, tenuiter striatis. Discus rimaeformis, impressus, nigricans. Epithecium fuscescens. Sporae 8:nae, decolores, fusiformes, apicibus obtusis aut altero apice rotundato-obtuso, septis transversis 10—17, jodo violascentes, long. 0.034—0.044, crass. 0.008—0.009 mm, strato gelatinoso tenui indutae.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20347 McGregor.* Ad corticem arboris.

77. **Gr. stenotera** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, leviter nitidus, KHO non reagens, hypothallo nigricante interdum partim limitatus. Apothecia sat crebra aut partim sparsa, emergentia aut leviter prominentia, long. 8—2 (— circ. 0.5), lat. 0.2—0.15 mm, simplicia aut rarius furcata, curvata flexuosave, apicibus vulgo sensim attenuatis acutisve. Perithecium fuligineum, dimidiatum, labiis conniventibus clausisque aut rarius anguste hiantibus, haud pruinosis, nudis, amphithecio nullo distincto aut raro angustissimo tenuique basi obductis, tenuissime striatis, striis demum pluribus. Discus impressus, rimaeformis inconspicuusque aut parum conspicuus nigricansque. Epithecium fuscescens. Paraphyses simplices, gelatinosae, apice leviter incrassatae. Sporae 8:nae, decolores, fusiformes aut elongatae, apicibus obtusis aut altero apice rotundato, rectae, 10—5-septatae, jodo violascentes, long. 0.036—0.020 (—0.014), crass. 0.008—0.005 mm, membrana haud gelatinosa aut (in n. 14961) strato gelatinoso tenui indutae. — Proxime affinis est *Gr. striatulae*, apotheciis duplo angustioribus minusque prominentibus ab ea differens.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12786, Fénix,* Pauai, *Copeland 1352* pr. p.; Subprov. Sorsogon, Irosin, *Elmer 14961* pr. p. Ad corticem arboris n. 14817 et aliarum arborum.

78. **Gr. Moultonii** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus aut glaucescenti-albidus, leviter nitidus, KHO parum reagens aut leviter flavescens, hypothallo

nigricante passim parce limitatus. Apothecia sat sparsa, prominentia, long. 4.5—0.4, lat. 0.2—0.15 mm, simplicia, sat recta aut leviter curvata, apicibus vulgo obtusis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut angustissime hiantibus, nudis, amphithecio thallino nullo distincto aut raro leviter evoluto basi obductis, demum stria una tenui instructis. Discus impressus, rimaeformis inconspicuusque aut parum conspicuus nigricansque, haud pruinosus. Epithecium pallidum. Paraphyses simplices, gelatinosae, apice haud aut leviter incrassatae. Sporae 8:nae, decolores, fusiformes, apicibus obtusis, rectae aut leviter curvatae, 11—6-septatae, jodo violascentes, long. 0.021—0.034, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Apotheciis nudis, nec thallino-obductis, a *Gr. duplicata* differt.

Borneo, Sarawak, prope Kuching, *J. C. Moulton Litt. b.* Ad corticem *Urandrae bracteatae*.

79. **Gr. duplicata** Ach. Syn. Lich. 81; Müll. Arg. Graph. Feean. 34; Vain. Lich. Antill. 26, Addit. Lich. Antill. 159.

Thallus tenuis, laevigatus, albidus, KHO parum reagens, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat sparsa, long. 5—0.5, lat. 0.3—0.2 mm, simplicia aut raro dichotome ramosa, vulgo curvata flexuosave, prominentia aut emergentia, lateribus praeruptis, apicibus sensim attenuatis aut acutis obtusisve. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut anguste hiantibus, vulgo parce sulcatis, vertice 0.15—0.3 mm lato, nigro, haud pruinoso, nudo, ex amphithecio thallino tenui, latera perithecii anguste obtegente, bene aut haud prominentibus. Discus impressus, rimaeformis inconspicuusque aut parum conspicuus nigricansque, haud pruinosus. Hymenium haud resinoso-guttulosum. Epithecium fuscescens aut testaceo-fuscescens. Paraphyses apice leviter incrassatae. Sporae 8:nae aut pauciores, decolores, rectae aut leviter curvatae, apicibus sat rotundatis obtusisve aut altero apice subacuto, septis 8—15, jodo violascentes,

long. 0.032—0.052, crass. 0.007—0.010 mm, membrana haud gelatinosa. (Var. *australasiatica* Vain.)

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8545 McGregor, Copeland 1352* pr. p. Ad corticem arborum.

Var. **negrosina** Vain.

Labiis perithecii totis tenuiter obvelatis, cinereo-nigricantibus a var. *australasiatica* differt, at in eam transire videtur, in eodem specimine etiam apotheciis superne denudatis nigrisque instructa. — Thallus tenuis, leviter verruculoso-inaequalis, glaucescenti-albidus, leviter nitidus, KHO haud bene reagens (subolivaceus), hypothallo nigricante partim limitatus. Apothecia crebra, long. 2.5—0.5, lat. 0.3—0.2 mm, simplicia aut raro furcata, curvata aut sat recta, emergentia, lateribus praeruptis, apicibus vulgo acutis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut anguste hiantibus, diu laevigatis, demum parce striatis, vertice 0.15—0.2 mm lato, cinereo-nigricante, subthallodice obvelato, ex amphithecio thallino tenui, latera perithecii obtegente, anguste elevato, haud aut parum prominentibus. Discus impressus, rimaeformis inconspicuusque aut parum conspicuus nigricansque, haud pruinosus. Hymenium decoloratum, haud guttulosum. Epithecium decoloratum. Paraphyses apice haud incrassatae. Sporae 8:nae, decolores, apicibus ambobus obtusis aut altero apice rotundato aut saepe attenuato, septis transversis 6—13, jodo violascentes, long. 0.028—0.064, crass. 0.008—0.012 mm, membrana haud gelatinosa. — Forsan non est autonoma species. Huc non pertinere videtur *Gr. striatula* var. *subpulverulenta* Nyl. in Hue Lich. Exot. 238 (var. *pulverulenta* Nyl. Fl. 1858 p. 381), quam in herb. Nyl. non inveni.

Negros, Bago, Hacienda Louisiana, *Merrill 6790* pr. p. Ad corticem *Pithecolobii dulcis*.

80. **Gr. nematodiza** Vain. sp. nov.

Thallus sat tenuis, laevigatus, albidus, sat opacus, KHO parum reagens, hypothallo nigricante partim limitatus. Apothecia sparsa,

long. 2—0.5, lat. 0.4—0.2 mm, simplicia, sat recta aut raro leviter curvata, prominentia, apicibus obtusis aut rotundatis, lateribus sat praeruptis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut anguste hiantibus, laevigatis, atris, leviter nitidis, nudis aut saepe basin versus amphithecio thallino tenui anguste obductis. Discus impressus, angustus, nigricans, nudus, aut rimaeformis inconspicuusque. Hymenium circ. 0.140 mm crassum. Epithecium fuscescens. Paraphyses apicibus leviter incrassatis. Sporae 8:nae aut 4:nae (in eodem apothecio), decolores, fusiformi-elongatae, apicibus obtusis, septis transversis 20—13, jodo violascentes, long. 0.050—0.100, crass. 0.009—0.010 mm, membrana haud gelatinosa. — Secundum specimen orig. in herb. Nyl. *Gr. nematodem* Leight. (Lich. Ceyl. 176) in memoriam revocans.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8652 McGregor.* Ad corticem arboris.

81. **Gr. diaphoroides** Müll. Arg. Lich. Beitr. (Fl. 1885) n. 1043; Lojka Lichenotheca Univ. II (1885) n. 91 (in herb. meo).

Thallus sat tenuis, leviter verruculoso-inaequalis, KHO parum reagens, hypothallo indistincto. Apothecia demum leviter emergentia, long. 2—0.5, lat. 0.3—0.2 mm, simplicia, sat recta aut rarius leviter curvata, apicibus obtusis aut sat acutis, sat crebra. Perithecium fuligineum, dimidiatum, labiis conniventibus, primum clausis, demum hiantibus, laevigatis, demum saepe amphithecio thallino tenui basi angustissime obductis. Discus demum apertus et 0.25—0.2 mm latus, planus, cinereo- vel livido-pruinosus, leviter impressus. Hymenium albidum, epithecio livido-rufescente. Sporae 8:nae, decolores, oblongae, apicibus obtusis aut altero apice rotundato, septis transversis 8—4, jodo violascentes, long. 0.021—0.024, crass. 0.007—0.009 mm, strato gelatinoso tenui saepe indutae. — Forsan est variatio *Gr. scriptae* (L.), amphithecio paullo magis evoluto differens.

Negros, Bago, Hacienda Louisiana, *Merrill 6790.* Ad corticem *Pithecolobii dulcis.*

82. **Gr. tenella** Ach. Syn. Lich. 81; Vain. Étud. Lich. Brés. II 121.

Var. **jatrophae** Vain.

Thallo disperso et apotheciis leviter prominentibus a var. *normali* differt. — Thallus tenuis, laevigatus, glaucescenti-albidus, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia sat crebra, long. 2—0.15, lat. 0.2—0.15 mm, leviter curvata aut sat recta, apicibus obtusis. Perithecium fuligineum, dimidiatum, labiis conniventibus, anguste aut angustissime hiantibus, laevigatis, haud pruinosis, amphithecio nullo aut basali tenuissimoque evanescenteve. Discus impressus, angustissimus angustusve, nigricans. Epithecium fuscescens. Sporae 8:nae, decolores, fusiformes, apicibus sat acutis aut obtusis, rectae, septis transversis 9—4, jodo violascentes, long. 0.017—0.020, crass. 0.005—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Rizal, Taytay, *Merrill 6344*. Ad corticem *Jatrophae curcas*.

83. **Gr. persicina** Mey. et Flot. in Act. Ac. Leop. Cur. XIX suppl. 1 (1843) 229 pr. p.; Müll. Arg. Rev. Lich. Mey. (1883) 317.

Thallus tenuis aut sat tenuis, laevigatus, albidus, leviter nitidus, KHO parum reagens (partim maculis parvis subflavescentibus), interdum partim linea hypothallina nigricante limitatus. Apothecia crebra aut sparsa, leviter prominentia aut rarius p. p. thallo immersa, long. 8—0.3, lat. 0.35—0.2 mm, simplicia aut furcata vel dichotome ramosa, curvata aut sat recta aut leviter flexuosa, apicibus acutis obtusisve aut raro sensim attenuatis. Perithecium fuligineum, dimidiatum, ex basi apothecii deficiens, labiis conniventibus, subclausis aut vulgo anguste aut sat anguste hiantibus, laevigatis, vertice nudo nigroque aut raro tenuissime subpruinoso cinereo-nigricanteque, ex amphithecio thallino tenui, latere praerupto instructo, haud aut parum prominentibus. Discus angustus, impressus aut demum haud impressus, nigricans aut saepius cinerascens vel cinereo-nigricans, tenuiter pruinosus aut rarius denudatus, aut rimaeformis et parum conspicuus. Epithecium fuscescens aut

fusco- vel purpureo-fuligineum, KHO fuscescens, ceterum hymenium partim albidum aut vulgo roseum vel dilute purpureum croceumve, guttulis resinosis eodem modo coloratis et KHO sordide virescentibus. Paraphyses apice leviter clavato-incrassatae. Sporae 8:nae aut 4:nae aut 2:nae (in eodem apothecio), decolores, oblongae elongataeve, apicibus obtusis aut rotundatis, septis transversis 13—9 (—5), long. 0.056—0.020, crass. 0.010—0.007 mm, rectae aut raro leviter curvatae, jodo violascentes, strato gelatinoso tenui aut raro crasso (—0.003 mm crasso) nullove indutae. — Facie externa *Gr. leptocarpam* Fée in memoriam revocans.

Palawan, Taytay, *Merrill 9039*, *9046*, *9050*. Luzon, Subprov. Laguna, Los Baños, *Baker 1253* pr. p. Ad corticem arborum (*Cocoës nuciferae*, *Calophylli*, cet.). Manila (Gaudich.), Mey. et Flot. l. c.

84. **Gr. guimarana** Vain. sp. nov.

Thallus tenuis aut sat tenuis, laevigatus, albidus, leviter nitidus, KHO lutescens deindeque rubescens et crystallos aciculares rubros formans, partim linea hypothallina nigricante limitatus. Apothecia crebra aut sat crebra, leviter prominentia aut p. p. thallo immersa, long. 6.5—0.4, lat. 0.3—0.2 mm, furcata vel dichotome ramosa aut simplicia, vulgo curvata flexuosave, apicibus sensim attenuatis. Perithecium fuligineum, ex basi media apothecii deficiens, labiis conniventibus, subclausis aut vulgo angustissime hiantibus, laevigatis, vertice tenuissime cinereo-nigricante subpruinosoque aut denudato nigricanteque, ex amphithecio tenui, latere praerupto instructo, haud prominentibus. Discus impressus, angustissimus, nigricans aut raro cinerascens, aut rimaeformis inconspicuusque. Epithecium fuscescens, ceterum hymenium dilute croceus aut subroseus, guttulis resinosis eodem modo coloratis et KHO sordide virescentibus. Sporae 8:nae, decolores, fusiformi-elongatae, apicibus obtusis aut altero apice rotundato, septis transversis 12—9, long. 0.047—0.028, crass. 0.008 mm, jodo violascentes, strato gelatinoso tenui saepe indutae. — Proxima est speciei praecedenti.

Insulae Guimaras, *Merrill 6716* pr. p. Ad corticem *Cocoës*.

85. **Gr. batanensis** Vain. sp. nov.

Thallus tenuis aut sat tenuis, laevigatus, albidus, parum nitidus, KHO parum reagens (dilutissime sordide subroseus), hypothallo indistincto. Apothecia sat crebra, thallo immersa, long. 6—0.5, lat. 0.25—0.2 mm, dichotome ramosa aut dendroideo-ramosa aut simplicia, curvata aut leviter flexuosa aut sat recta, apicibus obtusis aut rotundatis. Perithecium fuligineum, superne 0.030—0.010 mm crassum, basi tenue et interruptum aut evanescens, intus praesertimque basin versus fulvescens et KHO rubescens, hypothecio tantum superne albido, labiis subconniventibus, demum anguste aut angustissime apertis, amphithecio thallino tenui, extus circumscisso, KHO parum reagente, vulgo omnino obductis, margine paratheciali tenui, nigro, conspicuo in statu humido. Hymenium albidum, epithecio fuscescente aut dilute fuscescente. Paraphyses simplices, gelatinosae, apice haud incrassatae. Sporae 8:nae aut abortu pauciores, decolores, oblongae, rectae aut leviter curvatae, apicibus obtusis aut rotundatis, septis transversis 7—5, jodo violascentes, long. 0.020—0.016, crass. 0.007—0.006 mm, membrana haud gelatinosa. Discus leviter aut parum impressus, angustus aut angustissimus, dilute cinereus aut cinereo-nigricans, subpruinosus aut denudatus nigricansque, aut rimaeformis et tantum in statu humido conspicuus. — Affinis sit duabus praecedentibus, at in sect. *Fissurinam* accedens.

Insulae Batanes, Sabtan, *Bur. Sci. 10209 McGregor.* Ad corticem *Palmarum.*

86. **Gr. arecae** Vain. sp. nov.

Thallus tenuis, leviter verruculoso-inaequalis, albidus, leviter nitidus, KHO non reagens, partim linea hypothallina nigricante limitatus. Apothecia crebra, thallo immersa, long. 9—1, lat. 0.15—0.1 mm, iteratim dichotome ramosa, ramis saepe dendritico-radiantibus, aut partim simplicia, sat recta aut flexuosa curvatave, apicibus saepe sensim attenuatis. Perithecium fuligineum, dimidiatum, labiis conniventibus, raro demum angustissime apertis, tenuibus,

superne angustissime denudatis nigricantibusve, ceterum strato thallino, vulgo demum circumscisso, haud aut rarius levissime prominenti immersis. Discus haud impressus, inconspicuus aut raro angustissime apertus pallescensque, in statu humido bene conspicuus pallescensque. Hypothecium albidum aut pallidum. Hymenium circ. 0.100—0.090 mm crassum, albidum. Epithecium decoloratum. Sporae 8:nae, decolores, oblongae, apicibus obtusis aut altero apice rotundato, rectae, septis transversis 9—5, jodo violascentes, long. 0.030—0.020, crass. 0.007—0.005 mm, membrana haud gelatinosa. — Habitu subsimilis est *Gr. subdisserpenti* Nyl., *Gr. intricatae* Fée et *Gr. disserpenti* Nyl.

Insulae Guimaras, *Merrill 6724.* Ad corticem *Arecae catechu* in littore.

87. **Gr. leptocarpa** Fée Ess. Lich. Écorc. 36, t. IX f. 2; Müll. Arg. Graph. Feean. 32 (specim. orig. n. 7170 in herb. Nyl.), Rev. Lich. Mey. 317.

Thallus tenuis aut sat tenuis, laevigatus aut leviter verruculoso-inaequalis, albidus aut rarius glaucescens, leviter aut parum nitidus, KHO haud distincte reagens, interdum partim linea hypothallina nigricante limitatus. Apothecia sat crebra, prominentia, long. 2.5—0.3, lat. 0.35—0.2 mm, recta aut raro leviter curvata, simplicia aut raro parce ramosa, apicibus obtusis aut acutis. Perithecium fuligineum, dimidiatum, labiis conniventibus, anguste aut angustissime hiantibus aut clausis, laevigatis, vertice nudo, nigro aut nigricante, 0.2—0.1 mm lato, ex amphithecio laterali tenui praerupto aut rarius sat sensim dilatato haud aut bene prominentibus. Discus impressus, angustissimus, nigricans, aut rimaeformis inconspicuusque. Hymenium saepe guttulis resinosis decoloratis instructum. Epithecium fuscescens aut (in n. 14926) decoloratum. Paraphyses apice leviter aut (in n. 14926) haud incrassatae. Sporae 8:nae aut raro (in n. 14926) binae, decolores, oblongae aut fusiformi- vel ovoideo-elongatae, apicibus obtusis aut altero apice rotundato, rectae aut leviter curvatae, septis 10—5, jodo violascentes, long. 0.032—0.018, crass. 0.009—0.005 mm, strato gelatinoso 0.001—0.003 mm crasso interdum (in n. 8520 et 6339 indutae.

Luzon, Subprov. Benguet, Manila, *Merrill 8520*; Subprov. Ifugao, mons Polis, *Bur. Sci. 20331 McGregor*; Subprov. Rizal, Taytay, *Merrill 6339*; Subprov. Sorsogon, Irosin, *Elmer 14926* (var. **invita** Vain.). Ad corticem *Strebli asperi, Gliricidiae sepium* aliarumque arborum (n. 14922, cet.).

88. **Gr. furcata** Fée Ess. Lich. Écorc. 40, t. IX f. 4 (Müll. Arg. l. c.).

Thallus tenuis, laevigatus aut leviter verruculoso-inaequalis, albidus aut glaucescens, leviter nitidus, KHO haud distincte reagens, interdum partim linea hypothallina nigricante limitatus. Apothecia sparsa aut sat crebra, prominentia, flexuosa aut curvata, long. 8—0.3, lat. 0.25—0.15 mm, dichotome ramosa ramisque paucis furcatave aut simplicia, apicibus sensim acuminatis aut partim acutis obtusisve. Perithecium fuligineum, dimidiatum, labiis conniventibus, anguste aut angustissime hiantibus clausisve, laevigatis, vertice nudo, nigro aut nigricante, 0.15—0.1 mm lato, ex amphithecio laterali, tenui, praerupto aut sat sensim dilatato, haud aut bene prominentibus. Discus distincte aut haud impressus, angustissimus, nigricans aut pallescens, aut rimaeformis inconspicuusque. Epithecium decoloratum aut dilute olivaceo-fuscescens rufescensve. Paraphyses apice leviter aut haud incrassatae. Sporae 8:nae, decolores, oblongae, apicibus obtusis aut altero apice rotundato aut rarius sat acuto, rectae aut leviter curvatae, septis transversis 9—5, jodo violascentes, long. 0.040—0.016, crass. 0.008—0.005 mm, membrana haud gelatinosa aut (in n. 14988) strato gelatinoso 0.002 mm crasso indutae.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14636, 14773, 14925, 14988*. Ad corticem arborum n. 14623, 14772, 14922, 14987.

89. **Gr. lineola** Ach. Lich. Univ. 264; Müll. Arg. Graph. Feean. 32; Vain. Fl. Koh Chang Lich. 366.

Thallus tenuis, laevigatus, albidus, leviter nitidus, KHO non reagens, partim linea hypothallina nigricante limitatus. Apothecia sat crebra, immersa aut parum emergentia, flexuosa aut curvata aut recta, long. 3—0.3, lat. 0.1 mm, simplicia aut raro furcata, apicibus vulgo acutis. Perithecium fuligineum, dimidiatum, labiis

conniventibus, clausis aut angustissime hiantibus, laevigatis, thallum haud aut parum superantibus, nigris, nudis aut raro amphithecio thallino leviter evoluto instructis. Discus rimaeformis inconspicuusque aut angustissimus, impressus, nigricans. Epithecium fuscescens. Hymenium saepe guttulis resinosis decoloribus instructum. Paraphyses apice leviter incrassatae. Sporae 8:nae, decolores, oblongae, apicibus obtusis aut altero apice rotundato vel sat acuto, vulgo rectae, septis transversis 8—6, jodo violascentes, long. 0.038—0.016, crass. 0.009—0.005 mm, strato gelatinoso tenui interdum indutae.

Luzon, prope Manilam, *Merrill 8533*; Subprov. Laguna, Los Baños, *Baker 1253* pr. p.; Subprov. Sorsogon, Irosin, *Elmer 14634* pr. p. Ad corticem *Strebli asperi*, n. *14623* aliarumque arborum.

90. **Gr. tenellula** Vain. Addit. Lich. Antill. 160.

Thallus sat tenuis, leviter verruculoso-inaequalis aut sat laevigatus, albidus, sat opacus, KHO rubescens aut fusco-rubescens, primum plus minusve distincte flavescens, hypothallo indistincto. Apothecia crebra, leviter prominentia aut partim subimmersa, subrecta aut leviter curvata, long. 2—0.3, lat. 0.3—0.15 mm, simplicia aut rarius furcata, apicibus acutis aut obtusis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut angustissime hiantibus, laevigatis, nigris, haud pruinosis, vertice ex amphithecio thallino laterali, tenui, vulgo praerupto haud prominentibus. Discus impressus, nigricans, haud aut parum conspicuus, rimaeformis. Epithecium fuscescens aut rufescens Hymenium plus minusve resinoso-guttulosum. Paraphyses apice leviter incrassatae. Sporae 8:nae, decolores, oblongae aut ovoideo-oblongae, apicibus obtusis aut altero apice rotundato, rectae aut leviter curvatae, septis transversis 7—5, jodo violascentes, long. 0.030—0.017, crass. 0.007 mm, strato gelatinoso 0.001—0.003 mm crasso vulgo indutae.

Negros, Bago, Hacienda Louisiana, *Merrill 6790* pr. p.; Cabancalan, *Merrill 6736*. Ad corticem *Pithecolobii dulcis* et *Spondiae dulcis*.

91. **Gr. Bakeri** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, parum nitidus, KHO non aut parum reagens, linea hypothallina nigricante interdum limitatus. Apothecia saepe sat crebra, leviter prominentia, long. 4—0.3, lat. 0.2—0.15 mm, flexuosa curvatave, simplicia aut furcata aut ramis nonnullis dichotomis instructa, apicibus vulgo acutis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut angustissime hiantibus, laevigatis, cinereo-nigricantibus, tenuissime pruinosis, vertice ex amphithecio thallino laterali, tenui, praerupto haud prominentibus. Discus rimaeformis inconspicuusque aut raro (in n. 18094) conspicuus et haud impressus albidusque. Hymenium circ. 0.070—0.080 mm crassum, haud resinoso-guttulosum. Epithecium pallidum decoloratumve aut (in n. 547) olivaceo-fuscescens. Paraphyses apice haud aut leviter incrassatae. Sporae 8:nae, decolores, oblongae elongataeve, apicibus obtusis aut altero apice rotundato aut raro subacuto, rectae aut leviter curvatae, septis transversis 9—5, jodo violascentes, long. 0.043—0.015, crass. 0.008—0.006 mm, strato gelatinoso tenui vulgo indutae. — Labiis pruinosis a *Gr. furcata* Fée, cui simillima est, differt et proxime affinis *Gr. subvirgineae* (Nyl. Fl. 1867 p. 8).

Luzon, Subprov. Laguna, Los Baños, *Baker 537, 547*; Subprov. Sorsogon, Irosin, *Elmer 1489 b.* Panay, Subprov. Iloilo, *Bur. Sci. 18094 Robinson.* Ad corticem *Leeae manillensis*, *Fici notae*, *Pandani*, cet.

92. **Gr. subvirginea** (Nyl.) Vain. *Gr. scripta* var. *subvirginea* Nyl. Fl. 1867 p. 8 (excl. cit.).

Var. **streblicola** Vain.

Nec hypothecium nec epithecium obscuratum. — Thallus sat tenuis aut modice incrassatus, verruculoso-inaequalis, albidus, opacus, KHO parum reagens, partim circa apothecia flavescens, hypothallo indistincto. Apothecia sat crebra, thallo ad instar amphithecii sat tenuis haud prominentis circumscisso immersa, long. 7—0.5 mm, flexuosa curvatave, dichotome repetito-ramosa vel dendroideo-ramosa, apicibus obtusis aut sensim attenuatis. Perithecium

fuligineum, dimidiatum, lat. 0.2—0.15 mm, labiis conniventibus, clausis aut raro demum hiantibus, laevigatis, cinereo-nigricantibus, tenuissime pruinosis, aut raro in eodem specimine nudis nigricantibusve, vertice e thallo haud prominentibus. Discus rimaeformis inconspicuusque aut interdum conspicuus angustusque, haud impressus, cinereo-pruinosus. Hymenium haud resinoso-guttulosum, decoloratum, epithecio decolorato aut pallido. Paraphyses apice leviter incrassatae. Sporae 8:nae, decolores, elongatae, apicibus obtusis aut altero apice rotundato, rectae aut leviter curvatae, septis transversis 9—7, jodo violascentes, long. 0.032—0.021, crass. 0.007—0.006 mm, strato gelatinoso (circ. 0.003 mm crasso) indutae. — Affinis est *Gr. caesiellae* Vain. Lich. Bras. Exs. (1892) n. 45, quae apotheciis haud dendroideo-ramosis ab ea differt. *Gr. subcaesia* (Nyl.) Vain. (*Gr. scripta* var. *subvirginea* f. *subcaesia* Nyl. Lich. Antill., 1869, p. 19) apotheciis prominentibus, haud dendroideo-ramosis ab his speciebus dinstinguitur et ejus reactio a Nyl. l. c. indicatur.

Luzon, prope Manilam, *Merrill 8529.* Ad corticem *Strebli asperi.*

Var. **rhizophorearum** Vain.

Epithecium fuscescens. Hypothecium dilute fuscescens. — Thallus albidus, laevigatus, KHO parum reagens. Apothecia thallo immersa, sicut var. praec. circumscissa, flexuosa curvatave, dichotome repetito-ramosa vel subdendroideo-ramosa vel dendroideo-conferta, long. 8—2, lat. 0.2—0.15 mm, apicibus vulgo sensim attenuatis. Perithecium fuligineum, sat tenue, basi deficiens, labiis conniventibus, clausis aut demum plus minusve hiantibus, tenuiter pruinosis, laevigatis, vertice e thallo haud prominente, sed haud obducto. Discus rimaeformis inconspicuusque aut vulgo demum apertus, caesio-pruinosus. Sporae 8:nae, distichae, decolores, jodo violascentes, fusiformi-oblongae, apicibus obtusis aut sat acutis, 5—10-septatae, long. 0.024—0.027, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Forsan est autonoma species, at habitu *Gr. subvirgineae* sat similis.

Biliran, *Bur. Sci. 18421 McGregor.* Ad corticem *Rhizophorearum.*

93. **Gr. mindanaoënsis** Vain. sp. nov.

Thallus sat tenuis aut modice incrassatus, laevigatus aut leviter verruculoso-inaequalis, saepe rimulosus, albidus, opacus, KHO parum reagens (dilutissime subroseus), jodo non reagens, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, thallo immersa, amphithecio nullo distincto, flexuosa curvatave, long. 5—0.5, lat. 0.15—0.1 mm, furcata aut ramis nonnullis instructa aut simplicia, apicibus obtusis acutisve, tota KHO rubescentia. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut angustissime hiantibus, laevigatis, cinereo-nigricantibus, tenuissime pruinosis, vertice e thallo haud prominentibus. Discus inconspicuus, haud impressus, aut raro conspicuus et cinereo-pruinosus, in statu humido distinctus albidusque. Hymenium circ. 0.060 mm crassum. Epithecium fuscescens. Sporae 8:nae, decolores, elongatae oblongaeve, apicibus obtusis aut rotundato-obtusis, leviter curvatae aut rectae, septis 8—7, jodo violascentes, long. 0.028—0.034, crass. 0.010—0.008 mm, haud gelatinosae.

Mindanao, Distr. Zamboanga, *Merrill 8343*. Ad corticem arboris.

94. **Gr. urandrae** Vain. sp. nov.

Thallus tenuis, laevigatus aut leviter verruculoso-inaequalis, albidus, sat opacus aut leviter nitidus, KHO non reagens, linea hypothallina nigricante interdum partim limitatus. Apothecia sat sparsa, prominentia, vulgo flexuosa, rarius curvata subrectave, simplicia aut raro ramo uno instructa, amphithecio thallino vix ullo distincto, apicibus rotundatis obtusisve. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis aut raro angustissime hiantibus, laevigatis, atris, nudis. Discus inconspicuus, haud impressus, aut raro conspicuus albidusque. Hymenium decoloratum, haud resinoso-guttulosum. Epithecium decoloratum. Paraphyses apice leviter incrassatae (in litt. B haud incrassatae). Sporae 8:nae, decolores, oblongae aut fusiformi-oblongae elongataeve, apicibus obtusis rotundatisve, rectae, jodo violascentes, haud gelatinosae, long. 0.015—0.022, crass. 0.005—0.007 mm et septis transversis 5—8,

aut in litt. B long. 0.052—0.054, crass. 0.015 et septis transversis 11—12 (var. *evolutior* Vain.). — Apotheciis prominentibus a *Gr. lineola* Ach. et *Gr. tenella* Ach. differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14634* pr. p. Ad corticem arboris n. 14623. Borneo, Sarawak, prope Kuching, *Moulton* litt. C et (var. *evolutior*) litt. B. Ad corticem *Urandrae*.

95. **Gr. bulacana** Vain. sp. nov.

Thallus tenuis, laevigatus, continuus, caesio- vel glaucescenti-albidus, opacus, nec KHO nec jodo reagens, hypothallo indistincto. Apothecia sat crebra, prominentia aut emergentia, curvata aut flexuosa, long. 10—1, lat. 0.35—0.25 mm, dichotome repetito-ramosa aut rarius furcata simpliciave, apicibus obtusis rotundatisve, margine interdum subzeorino, vulgo omnino tenuiterque thallodice obducto, modice incrassato, latere sat praerupto aut haud valde praerupto. Perithecium basi deficiens, in margine fuligineum aut olivaceo-fuligineum, inferne fulvescenti-pallescens, KHO non reagens, labiis conniventibus, clausis, laevigatis, extus thallo concoloribus aut cinerascentibus, raro cinereo-nigricantibus, amphithecio thallino sat tenui omnino obductis aut vertice angusto, haud prominente, thallodice subpruinoso, amphithecio vero haud obductis. Discus haud aut parum impressus, tantum in statu humido conspicuus, pallidus. Epithecium decoloratum. Sporae 8:nae, decolores, oblongae, apicibus obtuso-rotundatis aut altero apice rotundato, rectae, septis transversis 8 aut 9, jodo violascentes, haud gelatinosae, long. 0.042—0.029, crass. 0.010—0.008 mm. — *Gr. subcaesia* (Nyl. Enum. Lich. Antill. 19) secundum specimen orig. in herb. Nyl. thallo disperso (et colore perithecii) a planta nostra differt, at ceterum facie externa ei simillima est.

Luzon, Subprov. Bulacan, Balinag, *Merrill 7051*. Ad corticem *Arecae*.

96. **Gr. humilis** Vain. sp. nov.

Thallus tenuis aut tenuissimus, laevigatus aut leviter verruculoso-inaequalis, albido-pallescens, leviter nitidus aut sat opacus, KHO parum reagens (dilute subflavescens, demum fulvescens), linea

hypothallina nigricante partim limitatus. Apothecia sparsa aut sat crebra, leviter aut interdum parum prominentia, leviter angulari-curvata aut sat recta, long. 2—0.5, lat. 0.4—0.25 mm, simplicia, apicibus rotundatis, vulgo tectiformia, vertice vulgo obtuso, lateribus basin versus sensim dilatatis. Perithecium basi deficiens, labiis late nigricantibus, conniventibus, clausis, laevigatis, amphithecio thallino tenui omnino obductis eamque ob causam saepe subcinerascentibus aut interdum vertice angustissime nigricante. Discus inconspicuus aut in amphithecio rima indicatus. Sporae 8:nae, submonostichae, decolores, ellipsoideae, apicibus rotundatis, septis transversis 3, loculis aequalibus, jodo violascentes, long. 0.016—0.014, crass. 0.008—0.007 mm, membrana sat crassa, haud gelatinosa.

Palawan, Taytay, *Merrill 9067*. Ad corticem *Calophylli inophylli* in littore.

97. **Gr. ferruginea** Vain. sp. nov.

Thallus tenuis, sat laevigatus, sordide albidus aut albido-cinerascens, saepe praesertimque circa apothecia maculis dilute pallido-ferrugineis, opacus, KHO non reagens, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, prominentia, long. 6—1, lat. 0.35—0.25 mm, flexuosa curvatave aut raro subrecta, dichotome ramosa aut subradiata, ramis 1—8, aut partim simplicia, apicibus acutis aut obtusis. Perithecium rufescenti-fuligineum, KHO non reagens, dimidiatum, labiis laevigatis, conniventibus, clausis aut rarius demum anguste hiantibus, amphithecio thallino tenui, pallido- aut rarius rubescenti-ferrugineo aut partim albido-cinerascente, basin versus sensim dilatato aut demum praerupto, omnino obductis aut vertice nigro angusto haud aut leviter prominente denudato instructis. Discus inconspicuus aut rarius conspicuus angustusque et haud aut leviter impressus et pallido-ferrugineus. Hymenium pallidum, epithecio rufescenti-pallido, KHO non reagente. Paraphyses simplices, apice haud aut leviter incrassatae. Sporae 8:nae, pallidae, oblongae, apicibus obtusis, septis transversis 5, lo-

culis lenticularibus, jodo vinose rubentes vel purpureae, long. 0.024—0.019, crass. 0.006 mm, membrana haud gelatinosa. — Analoga *Gr. ochroplacae* (Nyl.), *Gr. erythraeae* Krempelh. (Zwackh, Lich. Exs. 553) et *Gr. rosellae* (Müll. Arg.), at apotheciis typice magis thallino-obductis ab iis differens.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15030* pr. p., *15033* pr. p. Ad corticem arboris n. 15028.

Sect. 3. **Chlorographopsis** Vain.

98. **Gr. alboglauca** Vain. sp. nov.

Thallus sat tenuis aut leviter incrassatus, parum verruculoso-inaequalis aut sat laevigatus, glaucescens, leviter nitidus, KHO non reagens, hypothallo indistincto. Apothecia sparsa aut partim leviter aggregata, prominentia aut partim emergentia, long. 7—1 (0.5), lat. 0.25—0.4 mm, flexuosa curvatave, 1—3-ramosa aut simplicia, apicibus rotundatis obtusisve, excipulo albo, opaco, basi praerupto, KHO parum reagentia (sordide pallida). Perithecium albidum aut pallidum (in lamina tenui), labiis laevigatis, conniventibus, clausis aut demum angustissime hiantibus, modice incrassatis, amphithecio nullo obductis. Discus inconspicuus aut angustissimus, impressus, obscuratus. Epithecium decoloratum. Sporae 8:nae (ut videtur), decolores, fusiformi-oblongae, apicibus obtusis rotundatisve, septis transversis 11—6, jodo vinose rubentes, long. 0.034—0.027, crass. 0.008—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14750*. Ad corticem arboris n. 14734.

99. **Gr. chrysocarpoides** Vain. sp. nov.

Thallus sat tenuis, parum verruculoso-inaequalis aut sat laevigatus, albidus aut glaucescenti-albidus, partim circa apothecia anguste ferrugineo-rubescens fulvescensve, leviter nitidus, nec KHO nec jodo reagens, partibus ferrugineis fulvisque KHO purpurascentibus, hypothallo nigricante partim limitatus. Apothecia sat crebra, prominentia, long. 6—1, lat. 0.3—0.25 (0.15) mm, curvata flexuo-

save, simplicia aut raro parce ramosa, apicibus obtusis acutisve, excipulo rare thallo concolore, vulgo ferrugineo fulvescenteve, basin versus sensim dilatato aut rarius sat praerupto. Perithecium pallidum aut superne fuscescens, dimidiatum, labiis laevigatis, conniventibus, clausis aut angustissime hiantibus, sat tenuibus, amphithecio thallino tenui omnino obductis aut vertice angustissime denudato. Discus inconspicuus aut angustissimus, leviter aut parum impressus, caesio-pallescens. Hymenium circ. 0.080 mm crassum. Epithecium decoloratum. Paraphyses simplices, apicibus haud incrassatis. Sporae 8:nae, distichae, decolores, oblongae, apicibus rotundatis, rectae, septis transversis 3, jodo haud reagentes, long. 0.012—0.013, crass. 0.005—0.006 mm, membrana haud gelatinosa.

Polillo, *Bur. Sci. 10522 McGregor.* Ad corticem arboris.

100. **Gr. rufula** Mont. Crypt. Guy. (1851) 39 n. 132, Syll. Crypt. 346; Nyl. Lich. Nov.-Gran. 470; Tuck. Syn. North Am. Lich. II 125; Müll. Arg. Consp. Lich. Nov. Zel. 80. *Gr. Dumastii* **subcontextu* Nyl. Exp. Lich. Nov. Cal. (1861) 50. *Gr. subcontexta* Nyl. Syn. Lich. Nov. Cal. 79. *Fissurina* Nyl. Lich. Nov. Zel. 125.

Thallus sat tenuis aut modice incrassatus, laevigatus aut verruculoso- aut verrucoso-inaequalis, cinereo- aut rarius stramineo-glaucescens aut stramineo-variegatus, nitidus aut leviter nitidus, jodo non reagens, KHO non aut parum reagens (in n. 16991 et 1718 dilute olivaceum fuscescensve), hypothallo nigricante partim limitatus. Apothecia sparsa aut partim parce aggregata, prominentia, long. 12—1, lat. 0.6—0.3 (0.2) mm, flexuosa curvatave aut partim sat recta, simplicia aut raro furcata, apicibus obtusis acutisve. Discus inconspicuus aut rimaeformis angustissimusve, bene impressus, pallescens aut rufescens. Perithecium circ. 0.060 mm crassum, albidum aut fulvescens aut verticem versus rufescens fuscescensve, basi deficiens, labiis striatis (striis paucis) aut diu laevigatis, conniventibus, clausis aut demum anguste hiantibus, amphithecio thallino sat tenui, thallo concolore, basin versus sensim dilatato aut praerupto, omnino obductis aut vertice denudato. Hymenium jodo non reagens. Epithecium decoloratum pallidumve. Paraphyses

simplices. Sporae 8:nae, monostichae aut distichae, decolores, ellipsoideae aut ovoideae, apicibus rotundatis, septis transversis 3, loculis apicalibus vulgo reliquis majoribus, jodo non reagentes aut (in n. 14639 et 16991) vetustiores sat leviter purpurascentes, long. 0.013—0.020, crass. 0.006—0.009 mm, membrana modice incrassata, haud gelatinosa, aut (in 14639) exosporio distincto.

Luzon, Subprov. Rizal, *Bur. Sci. 16991 Ramos*, Antipolo, *Bur. Sci. 29549 Ramos et Edaño*; Subprov. Laguna, mons Maquiling, *Bur. Sci. 17180 Robinson*; Subprov. Sorsogon, Irosin, *Elmer 14639*. Biliran, *Bur. Sci. 18433, 18447 McGregor*. Ad corticem arborum.

F. **tegocarpa** Vain.

Perithecium minus evolutum, amphithecio thallino, basin versus sensim dilatato, omnino obductum. — Apothecia dendroideo-conferta ramosave, labiis clausis aut anguste hiantibus. Sporae long. 0.014—0.018, crass. 0.005—0.008 mm, 3-septatae, loculis apicalibus paullo majoribus. In formam typicam transit.

Samar, flumen Catubig, *Bur. Sci. 24930 Edaño*. Ad corticem arboris.

Var. **comirana** Vain.

Thallus sat obscure cinereo-glaucescens, verrucoso-inaequalis, KHO non reagens. Apothecia prominentia, long. 9—1, lat. 0.7—0.4 mm, flexuosa curvatave, simplicia, lateribus praeruptis, apicibus obtusis. Discus inconspicuus aut rimaeformis, angustissimus, bene impressus, pallescens. Perithecium intus albidum, strato exterio fulvo, integro, labiis demum parce striatis, saepe diu laevigatis, conniventibus, clausis aut demum angustissime hiantibus, amphithecio thallino, thallo concolore, sat tenui omnino obductis aut vertice denudato. Hymenium circ. 0.120—0.140 mm crassum. Epithecium decoloratum. Sporae 8:nae, monostichae aut distichae, decolores, ellipsoideae aut ovoideo-ellipsoideae, apicibus rotundatis, septis transversis 3, jodo violascentes, long. 0.015—0.017, crass. 0.007—0.009 mm, strato gelatinoso (in KHO turgescente) indutae. — Habitu *Gr. rufulae* omnino similis, at perithecio et sporis ab ea differens et forsan autonoma species.

Insula Comiran Maris Suluensis, *Merrill 7168*. Ad corticem arboris.

101. **Gr. albocinerea** Vain. sp. nov.

Thallus modice incrassatus, sat laevigatus, rimulosus, cinereo-glaucescens, leviter nitidus, KHO parum reagens, jodo non reagens, hypothallo nigricante partim limitatus. Apothecia sparsa, prominentia, long. 3—0.5, lat. 1.3—0.35 mm, flexuosa curvatave aut sat recta, simplicia aut rarius ramo uno instructa, apicibus obtusis, alba aut latere saepe anguste thallo concoloria, lateribus praeruptis. Discus rimaeformis, bene impressus, inconspicuus aut raro angustus, pallidus. Perithecium fulvescens, sat tenue, integrum, labiis laevigatis, conniventibus, subclausis aut angustissime aut raro anguste hiantibus, amphithecio thallino sat crasso omnino obductis. Epithecium decoloratum. Paraphyses apice haud incrassatae. Sporae 8:nae, decolores, oblongae ellipsoideaeve, apicibus rotundatis, septis transversis 3, loculis apicalibus paullo majoribus, jodo non reagentes, long. 0.017—0.020, crass. 0.008—0.009 mm, membrana haud gelatinosa. — Habitu *Gr. bonplandiae*, at forsan autonoma species, apotheciis extus albis et perithecio magis evoluto ab ea differens.

Luzon, Subprov. Benguet, Pauai, *Copeland 1369* pr. p. Ad corticem arboris.

104. **Gr. bonplandiae** (Fée) Müll. Arg. Graph. Fecan. (1887) 36; Vain. Lich. Antill. (Journ. of Bot. 1896) 26.

Var. **bilirana** Vain.

Apotheciis paullo majoribus a speciminibus americanis differt. Thallus sat crassus aut modice incrassatus, laevigatus, glauco-pallescens, KHO fuscescens. Apothecia long. 6—1, lat. 1—0.6 mm, flexuosa curvatave, demum vulgo albido-pallescentia, labiis leviter striatis. Sporae 8:nae, distichae, ellipsoideae oblongaeve, apicibus obtusis, decolores, 3-septatae, long. 0.013—0.018, crass. 0.007—0.008 mm. Perithecium albidum.

Biliran, *Bur. Sci. 18419 McGregor.* Ad corticem arboris.

Sect. 4. **Fissurina** (Fée) Vain.

102. **Gr. canlaonensis** Vain. sp. nov.

Thallus modice incrassatus aut sat tenuis, partim verruculoso-inaequalis, continuus, cinereo-glaucescens, nitidus, KHO parum reagens

(solutionem olivaceo-subfulvescentem formans), jodo non reagens, hypothallo indistincto. Apothecia sparsa aut partim approximata, prominentia aut emergentia, long. 3.5—1, lat. 1—0.5 mm, curvata aut subflexuosa aut sat recta, simplicia, apicibus obtusis aut rotundatis, lateribus praeruptis aut rarius basin versus sensim dilatatis aut parum constrictis, thallo concoloria, KHO subrubescentia. Discus rimaeformis, bene impressus, inconspicuus. Perithecium carneo-pallidum, granulis rubris sparsis instructum, laterale, sat tenue, basi deficiens aut evanescens, labiis conniventibus, subclausis aut angustissime hiantibus, amphithecio thallino sat crasso, leviter verruculoso-inaequali, thallo concolore omnino obductis aut vertice haud aut leviter impresso anguste denudatis, saepe demum parce striatis aut substriatis. Hymenium circ. 0.130 mm crassum. Epithecium pallidum. Sporae 8:nae, monostichae aut distichae, decolores, ellipsoideae, vulgo leviter curvatae, apicibus rotundatis, septis transversis 3 aut 4 (in eodem apothecio), loculis apicalibus saepe duplo aut paullo majoribus, jodo non reagentes, long. 0.015—0.026, crass. 0.008—0.014 mm, membrana sat crassa, fere gelatinosa. — Habitu quasi variatio *Gr. bonplandiae* (Fée) Müll. Arg. versus *Gr. triticeam* Nyl. (Lich. Nov.-Gran. 470) vergens, praesertim sporis et perithecio ab ambabus differens. Conf. cum *Gr. triticea* f. *lactea* Zahlbr. (Flecht. Neuguin. Haw. 27).

Negros, Canlaon Volcano, alt. 6400 ped. s. m., *Merrill 6868*. Ad corticem arboris.

103. **Gr. eugeniae** Vain. sp. nov.

Thallus modice incrassatus aut raro crassus, laevigatus aut rarius leviter verruculoso-inaequalis, continuus, glaucescens aut albido-stramineus aut albido- vel rarius pallido-glaucescens, leviter nitidus, intus albidus et jodo sat leviter caerulescens, KHO intus intense rubescens rufescensve et crystallos rubros aciculares formans, primum saepe lutescens, extus minus distincte reagens, hypothallo indistincto aut partim fuscescente limitatus. Apothecia subradiatim aut dendritice aggregata, emergentia vel leviter prominentia, long. 20—0.5, lat. 0.5—0.3 mm, flexuosa aut partim curvata subrectave,

iteratim dichotome aut subdendritice vel subradiatim ramosa furcatave aut partim simplicia, apicibus rotundatis obtusisve aut acutis aut partim sensim attenuatis, lateribus vulgo praeruptis, raro basin versus sensim dilatatis. Discus apertus, angustus, lat. 0.3—0.15 mm, leviter impressus, carneo- aut pallido-albidus, pruinosus. Perithecium sordide pallescens, tenue, labiis conniventibus, hiantibus, amphithecio thallino tenui latere aut angustissime basi obductis, laevigatis aut demum leviter striatis, vertice sordide subalbido late denudatis. Hypothecium albidum. Epithecium pallidum aut sordide pallidum. Sporae 8:nae, decolores, ellipsoideae aut oblongae, rectae aut leviter curvatae, apicibus obtusis aut altero apice rotundato, septis transversis 3, jodo haud reagentes, long. 0.011—0.015, crass. 0.005 mm, membrana haud gelatinosa, raro evolutae. — Habitu similis est *Gr. grammiticae* Nyl. (Fl. 1866 p. 292, Wright Graph. Cub. n. 38), quae thallo KHO haud reagente et excipulo thallo concolore minusque elevato ab ea differt.

Luzon, Subprov. Nueva Vizcaya, Dupax, *Bur. Sci. 14315 McGregor*; Subprov. Bataan, mons Mariveles, alt. 800 m, *Whitford 1087*, *Merrill 3971* (cum sporis), *6267*; subprov. Sorsogon, Irosin, *Elmer 14942*, *15077*. Negros, Canlaon Volcano, alt. 5000 ped. s. m., *Merrill 6886*. Ad corticem *Eugeniae* et arborum n. 14941 et 15074.

104. **Gr. schizogramma** Vain. sp. nov.

Thallus tenuis aut sat tenuis, laevigatus aut leviter verruculoso-inaequalis, continuus, substramineo-glaucescens et cinereo-glaucescenti-variegatus, nitidus, intus albidus et jodo non reagens, KHO parum reagens, linea hypothallina nigricante partim limitatus. Apothecia sparsa aut leviter aggregata, immersa aut leviter emergentia, long. 5—0.3, lat. 0.4—0.25 mm, flexuosa curvatave aut partim sat recta, simplicia, apicibus acutis aut sensim attenuatis, lateribus basin versus sensim dilatatis. Discus angustus, apertus, bene impressus, carneo- aut livido-pallescens. Perithecium albidum aut pallidum, tenue, labiis conniventibus, hiantibus, apertura 0.25—0.1 mm lata instructis, laevigatis, amphithecio thallino tenui omnino obductis, summo margine sat acuto. Epithecium pallidum aut deco-

loratum. Sporae 8:nae, monostichae aut distichae, decolores, ovoideo-oblongae, rectae aut leviter curvatae, altero apice rotundato, altero obtuso, septis transversis 3, jodo violascentes aut levissime rufescentes aut (in eodem apothecio) haud reagentes, long. 0.014—0.018, crass. 0.005—0.006 mm, membrana haud gelatinosa. — *Gr. grammitis* Fée disco haud aut parum impresso et reactione thalli ab hac specie differt.

Luzon, Subprov. Bataan, mons Marivcles, *Merrill 6269.* Ad corticem arboris.

105. **Gr. malacoderma** Vain. sp. nov.

Thallus tenuis aut sat tenuis, substrato arcte adnatus, laevigatus, continuus, albido- aut albidocinereo-glaucescens, opacus, nec jodo nec KHO reagens, linea hypothallina nigricante aut pallescente interdum partim limitatus. Apothecia vulgo sparsa, immersa, long. 5—0.5, lat. 0.2—0.1 mm, flexuosa curvatave, furcata aut ramis nonnullis instructa aut simplicia, apicibus acutis aut obtusis rotundatisve, margine haud prominente, interdum circumscisso, thallo concolore, jodo haud reagente. Discus angustus, lat. 0.2—0.1 mm, apertus, haut aut leviter (in n. 16677 et 15045) impressus, fuscescens, haud pruinosus. Parathecium tenue, patens, rufescens aut (in 15045) fulvescens et summo margine anguste rubricoso-rufescens, haud prominens, thallo omnino obductum aut raro summo margine subdenudato. Hypothecium albidum, tenue. Hymenium jodo non reagens. Epithecium testaceo- aut livido-rufescens. Paraphyses simplices. Sporae 8:nae aut (in n. 15045) 4:nae 2:naeve, decolores, oblongae aut fusiformi-oblongae, apicibus obtusis aut altero apice rotundato, rectae aut leviter curvatae, septis transversis 9—10 aut raro (in n. 14485) 9—16, jodo violascentes, long. 0.031—0.065, crass. 0.008—0.011 mm, vulgo strato gelatinoso (jodo non reagente), tenui indutae. — Affinis est *Gr. glaucescenti* Fée, quae apotheciis crebrioribus, margine leviter prominente et sporis partim minoribus ab ea leviter differt. *Gr. malacodes* Nyl. (Fl. 1867 p. 196, Syn. Lich. Nov-Cal. 77), thallo crassiore, inaequali ab his distinguitur, at forsan in speciem nostram transit.

Luzon, Subprov. Laguna, San Antonio, *Bur. Sci. 16677 Ramos*, mons Maquiling, *Bur. Sci. 17172 Robinson*; Subprov. Sorsogon, Irosin, *Elmer 14485, 15045* pr. p. Ad corticem *Acalyphae* aliarumque arborum.

106. **Gr. glaucescens** Fée Ess. Lich. Écorc. 36, Nyl. Syn. Lich. Nov. Cal. 76, Müll. Arg. Gr. Feean. 36, Vain. Étud. Lich. Brés. II 125.

Thallus tenuis, laevigatus, albido-glaucescens. Apothecia sat crebra, long. 3—0.5, lat. 0.25—0.1 mm, flexuosa curvatave, furcata aut ramis nonnullis instructa aut simplicia, apicibus obtusis aut acutis aut rotundatis, margine leviter prominente, sordide albido, tenui, latere sat abrupto. Discus angustus, lat. 0.2—0.1 mm, apertus, leviter impressus, rufescens fuscescensve aut livido-rufescens, nudus aut tenuissime subpruinosus. Parathecium tenue, patens, rufescens aut pallidum, strato thallode omnino obductum. Hypothecium albidum. Epithecium livido-pallescens aut subrufescens. Sporae 8:nae, decolores, oblongae, apicibus obtusis aut altero apice rotundato, rectae aut leviter curvatae, septis transversis 9—10, jodo violascentes, long. 0.027—0.040, crass. 0.007—0.009 mm, haud gelatinosae.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14662* pr. p. Ad corticem arboris n. 14650.

Sect. 5. **Glyphis** (Ach.) Vain.

107. **Gr. cicatricosa** (Ach.) Vain. Étud. Lich. Brés. II 127, Fl. Koh Chang Lich. 368. *Glyphis* Ach. Syn. Lich. 107, Nyl. Syn. Lich. Nov. Cal. 82.

Var. **simplicior** Vain. Addit. Lich. Antill. 164.

Luzon, Subprov. Benguet, *Merrill 7986*. Ad corticem arborum.

Var. **confluens** (Zenk.) Vain. l. c.

Pseudostromata discis ramosis, confluentibus et partim fissura disjunctis. Hypothecium crassum, fuscofuligineum. Sporae decolores, oblongae, apicibus rotundatis obtusisve, septis transversis 9—10, jodo violascentes, long. 0.032—0.046, crass. 0.008—0.010 mm, membrana saepe gelatinosa.

Negros, Bago, Hacienda Louisiana, *Merrill 6798*. Ad corticem *Pithecolobii dulcis*.

2. **Helminthocarpon** Fée.

1. **H. pervarians** (Nyl.) Vain. *Graphis* Nyl. Lich. Ins. St. Thomae (Fl. 1886) p. 175, Contr. Lich. d'Afr. (Bolet. Brot. IV, 1886) p. 10, Lich. Guin. (1889) p. 31.

Thallus modice incrassatus aut sat tenuis, verruculoso-inaequalis, albidus, sat opacus, KHO lutescens deindeque intense rubescens et praecipitatum granulosum rubrum formans, jodo non reagens, hypothallo indistincto. Apothecia sparsa aut sat crebra, difformia, long. 10—1, lat. 2—1 mm, simplicia aut irregulariter breviterque ramosa lobatave, apicibus rotundatis, saepe curvata, prominentia, basi leviter constricta. Discus apertus, planus, pruinosus, caesio-lividus, opacus, margine thallino, thallo concolore, discum leviter superante, modice incrassato aut sat crasso, saepe leviter rugoso aut subverruculoso, KHO lutescente et demum rubente. Perithecium tenue, pallidum aut fulvescens, maculis sordide olivaceis. Hypothecium albidum aut pallidum vel subfulvescens. Amphithecium thallinum 0.160—0.110 mm crassum. Hymenium 0.300 mm crassum, jodo non reagens. Epithecium sordide pallidum aut pallido-nigrescens, verruculoso-inaequalis. Paraphyses tubulis tenuissimis, gelatinam percurrentibus, in epithecio et ad latera apothecii ramoso-connexae, ceterum simplices (in KHO, H_2SO_4). Sporae solitariae, decolores, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, jodo violascentes, long. 0.166—0.200, crass. 0.044—0.060 mm, membrana haud gelatinosa.

Luzon, Subprov. Benguet, Pauai, alt. circ. (2100 m), *Bur. Sci. 8616 R. C. McGregor.* Ad corticem arboris. — *Gr. pervarians* Nyl. secund. specim. orig. specie non differre videtur a planta nostra, at apotheciis minoribus, lat. 0.6—1.2 mm, sporis minoribus, long. 0.092—0.140, crass. 0.021—0.070 mm, et hypothecio fuscescente instructa, observante Nyl. Planta philippina nominetur var. **MacGregorii** Vain.

3. **Opegrapha** (Humb.) Vain.

Sect. 1. **Euopegrapha** Müll. Arg.

1. **O. gigantea** Vain. sp. nov.

Thallus tenuis aut sat tenuis, continuus aut parce rimosus, laevigatus, cinereus, leviter nitidus, KHO extus parum reagens et intus

fulvescens vel aurantiaco-rubescens, hypothallo indistincto. Apothecia sparsa, elevata, long. 10—2, lat. 0.9—0.7 mm, flexuosa aut rarius partim recta, simplicia aut raro furcata, apicibus obtusis aut rotundatis, basi constricta. Perithecium fuligineum, integrum, labiis conniventibus, clausis, laevigatis, vertice rotundato, lateribus nudis aut raro amphithecio thallino tenui basin versus anguste obductis. Discus rimaeformis, inconspicuus. Hymenium sporaeque haud evoluta. — Forsan ad *Graphidem* pertinet.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20358 McGregor.* Ad corticem arboris.

2. **O. robusta** Vain. Fl. Koh Chang Lich. 369.

Thallus tenuissimus aut tenuis aut (in n. 6255) modice incrassatus, continuus aut dispersus, laevigatus aut (in n. 6255) crebre verruculoso-inaequalis, albido-glaucescens aut (in n. 6251) olivaceo-pallidus, opacus aut leviter nitidus, hypothallo nigricante partim limitatus. Apothecia sparsa aut parce confluentia subaggregatave, prominentia, alt. 0.3—0.25 mm, long. 7—0.5, lat. 0.5—0.3 mm, recta aut rarius flexuosa curvatave, simplicia aut parce ramosa, apicibus obtusis aut rotundatis, basi constricta, atra, leviter nitida. Perithecium fuligineum, integrum, labiis conniventibus, clausis aut anguste hiantibus, laevigatis, lateribus omnino nudis. Discus rimaeformis, impressus, nigricans, nudus. Hymenium circ. 0.14—0.11 mm crassum, jodo fulvescens aut (in n. 6255) violascens. Paraphyses ramoso-connexae. Epithecium rufescens aut pallidum decoloratumve. Sporae 8:nae, decolores, bacillares aut aciculares fusiformesve, rectae aut leviter curvatae, apicibus obtusis, septis transversis 15—11 (—7), vulgo crebris, loculis cylindricis, sat aequalibus, membrana gelatinoso-incrassata aut strato gelatinoso indutae, long. 0.060—0.043, crass. 0.005—0.0035 aut strato gelatinoso computato 0.009—0.010 mm.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 3970, 6248, 6251.* Ad corticem arboris.

Var. **verruculosa** Vain.

Thallus modice incrassatus, crebre verruculoso-inaequalis, albido-glaucescens, parum nitidus. Apothecia long. 5—0.5, lat. 0.5—0.3 mm. Hymenium jodo violascens. Sporae 8:nae, fusiformes, apicibus obtusis, septis 14—11, crebris, long. 0.048—0.043, crass. 0.009—0.010 mm (membrana gelatinoso-incrassata computata). — Forsan est autonoma species.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6255*. Ad corticem arboris.

3. **O. prosodea** Ach. Meth. Lich. 22, Syn. Lich. 74; Nyl. Lich. Exot. 229, Prodr. Fl. Nov.-Gran. Addit. 568, Lich. Andam. 12, Sert. Lich. Labuan 8.

Var. **quassiaecola** (Fée) Vain. *O. Bonplandi* v. *quassiaecola* Fée Ess. Crypt. Écorc. 26, t. V f. 5 (Müll. Arg. Graph. Feean. 18).

Thallus tenuis, continuus aut dispersus, laevigatus, glaucescens, sat opacus, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, prominentia, long. 2—0.4, lat. 0.35—0.15 mm, sat recta aut leviter flexuosa curvatave, simplicia, apicibus obtusis aut rotundatis, latere sat praerupta aut raro basi leviter constricta, nigra, sat opaca. Perithecium fuligineum, integrum, labiis conniventibus, anguste hiantibus, laevigatis, lateribus omnino nudis. Discus rimaeformis aut angustissimus, impressus, nigricans, nudus. Hymenium jodo fulvescens aut partim fulvescenti-rubescens. Paraphyses ramoso-connexae, haud gelatinosae. Asci long. circ. 0.080, lat. 0.022 mm, clavati. Sporae 8:nae, polystichae, decolores, aciculares, rectae, altero apice obtuso, altero attenuato, septis transversis 15—12, loculis sat aequalibus aut apicalibus longioribus, membrana subgelatinoso-incrassata, long. 0.064—0.042, crass. 0.008—0.006 mm.

Insula Comiran in Mari Suluensi, *Merrill 7166*. Ad corticem *Pini*.

Var. **nana** Vain.

Thallus tenuis, dispersus, laevigatus, albido-glaucescens, opacus, aut evanescens, hypothallo indistincto. Apothecia crebra aut sat crebra, prominentia, long. 1—0.3, lat. 0.35—0.15 mm, recta aut

rarius leviter curvata, simplicia, apicibus obtusis aut rotundatis, basi vulgo leviter constricta, nigra, sat opaca. Perithecium fuligineum, integrum, labiis conniventibus, anguste hiantibus aut rarius clausis, laevigatis, lateribus omnino nudis. Discus rimaeformis aut angustissimus, impressus aut leviter impressus, nigricans, nudus. Epithecium fuscescens. Paraphyses increbrae, ramoso-connexae, haud gelatinosae, crass. 0.0015 mm. Asci long. circ. 0.060—0.070, lat. 0.021—0.024 mm, clavati. Sporae 8:nae, polystichae, decolores, elongato-fusiformes, leviter curvatae, apicibus obtusis, septis transversis 14, loculis ceterum aequalibus, at apicalibus saepe longioribus, membrana incrassata, haud gelatinosa, long. circ. 0.026, crass. 0.008 mm.

Insula Comiran in Mari Sulucnsi, *Merrill 7164*. Ad corticem arboris frondosae.

Var. **sclerocarpa** (Mey. et Flot.) Vain. *Graphis sclerocarpa* Mey. et Flot. (Müll. Arg. Rev. Lich. Mey. 317).

Thallus tenuis, dispersus aut continuus, laevigatus, albido-glaucescens, sat opacus, linea hypothallina partim limitatus. Apothecia sparsa aut parce aggregata aut ad instar ramorum subconfluentia, ceterum simplicia, prominentia, long. 5—0.7 (—0.3), lat. 0.35—0.25 mm, sat recta aut raro leviter curvata, apicibus obtusis aut rotundatis, latere sat praerupta aut basi leviter constricta, nigra, sat opaca. Perithecium subrubricoso-fuligineum, integrum, labiis conniventibus, clausis aut anguste hiantibus, laevigatis, lateribus omnino nudis. Discus leviter aut parum impressus, nigricans, nudus, rimaeformis aut angustissimus aut inconspicuus. Hymenium jodo dilute rubescens aut fulvescens. Epithecium decoloratum aut pallidum. Paraphyses ramoso-connexae, tubulis tenuissimis, gelatinam percurrentibus. Asci clavati, long. circ. 0.060—0.090, lat. 0.022—0.024 mm. Sporae 8:nae, decolores, elongato-fusiformes, rectae aut leviter curvatae, apicibus attenuatis aut sat obtusis, septis transversis 18—12 (—7 in eodem apothecio), loculis aequalibus aut apicalibus longioribus, long. 0.078—0.040, crass. 0.011—0.004 mm, membrana saepe subgelatinoso-incrassata.

Luzon, Subprov. Ifugao, *Bur. Sci. 20058 McGregor*; Manila (*Gaudich.*). Palawan, Taytay, *Merrill 9070*. Ad corticem arborum frondosarum.

4. **O. obtusella** Nyl.

Thallus tenuis aut modice inscrassatus, subcontinuus aut rimulosus, laevigatus aut leviter inaequalis, albidus aut rarius cinerascens, opacus, hypothallo indistincto. Apothecia crebra, prominentia, long. 1.3—0.3, lat. 0.3—0.15 mm, sat recta aut leviter curvata, elongata aut rarius ellipsoidea aut raro rotundata, apicibus obtusis aut raro rotundatis, simplicia, latere sat praerupta aut rarius basi demum leviter constricta. Perithecium fuligineum, integrum, labiis conniventibus, hiantibus aut demum apertis, laevigatis, nigris aut raro cinereo-nigricantibus, nudis, opacis. Discus bene aut parum aut raro haud impressus, nigricans, nudus, opacus, rimaeformis aut apertus. Hymenium leviter resinoso-guttulosum, jodo rubescens aut fulvo-rubescens. Asci long. circ. 0.060—0.064, lat. 0.020—0.025 mm. Sporae 8:nae, decolores, elongato-fusiformes, rectae aut leviter curvatae, apicibus obtusis, septis transversis 12—9, loculis sat aequalibus, long. 0.044—0.034, crass. 0.010—0.008 mm, membrana 0.0015 mm crassa. — *O. obtusella* Nyl., in Timor a Fr. Newton lecta, „sporis 9-septatis, long. 0.030—0.038, crass. 0.007 mm, hymenio jodo fulvo-rubescente", huc pertineat, etiam habitu similis (6504 in herb. Nyl.).

Luzon, Subprov. Laguna, Los Baños, *Baker 548*. Ad corticem arboris.

5. **O. concatenata** Vain. sp. nov.

Thallus tenuis aut tenuissimus, continuus aut partim dispersus, laevigatus, cinerascens aut glaucescens, opacus, hypothallo nigricante limitatus. Apothecia crebra, partim in series aut subradiatim vel subreticulatim confluentia, ceterum simplicia, long. 1.5—0.5, lat. 0.15—0.1 mm, prominentia, sat recta aut rarius leviter curvata, apicibus obtusis, lateribus praeruptis aut basi leviter constricta. Perithecium fuligineum, integrum, labiis conniventibus, clausis, laevigatis, nigricantibus, nudis, opacis. Discus inconspicuus aut raro rimaeformis, parum aut haud impressus, nigricans, nudus. Hyme-

nium jodo fulvescens. Sporae aciculari-fusiformes, saepe leviter curvatae, apicibus sat acutis aut sat obtusis, decolores, septis transversis 13—9, loculis sat aequalibus, long. 0.044—0.030, crass. 0.005—0.003 mm, membrana haud gelatinosa.

Palawan, Taytay, *Merrill 9052*. Ad corticem *Pongamiae dulcis* in littore.

6. **O. negrosina** Vain. sp. nov.

Thallus tenuis, subcontinuus, laevigatus, albus aut raro partim evanescens, opacus, hypothallo indistincto. Apothecia crebra, long. 0.8—0.2, lat. 0.15—0.1 (—0.3) mm, simplicia aut raro furcata, subrecta aut rarius leviter curvata, oblonga aut rarius ellipsoidea rotundatave, apicibus obtusis rotundatisve aut raro acutis, prominentia, sat tenuia, lateribus sat praeruptis. Perithecium fuligineum, integrum, labiis conniventibus, hiantibus aut raro clausis vel demum apertis, laevigatis, nudis, opacis, tenuibus. Discus rimaeformis, impressus, aut raro apertus et haud impressus, nigricans, nudus, aut inconspicuus. Hymenium jodo lutescens. Asci clavati, long. 0.036—0.048, lat. 0.016 mm. Sporae 8:nae, polystichae, decolores, aciculari-fusiformes, leviter curvatae aut rectae, apicibus sat acutis aut obtusis, septis transversis 10—7, loculis sat aequalibus aut apicalibus longioribus, long. 0.036—0.028, crass. 0.003—0.002 mm, membrana tenui, haud gelatinosa. — Habitu *O. atram* Pers. in memoriam revocans. Proxime affinis *O. cylindricae* Raddi (*Bonplandi* Fée), quae praesertim colore thalli et membrana gelatinosa sporarum ab ea differt.

Negros, Cabancalan, *Merrill*. Ad corticem *Mangiferae indicae*.

7. **O. heterospora** Vain. sp. nov.

Thallus tenuis, continuus, laevigatus, cinereo- aut albido-glaucescens, sat opacus, linea hypothallina fuscescente partim limitatus. Apothecia sat crebra, long. 1.2—0.3, lat. 0.2—0.15 mm, recta aut raro leviter curvata, oblonga aut rarius ellipsoidea, apicibus obtusis rotundatisve, simplicia, prominentia, lateribus praeruptis. Perithecium fuligineum, integrum, labiis conniventibus, anguste hiantibus

aut raro clausis, laevigatis, nudis, opacis, sat tenuibus. Discus rimaeformis, impressus, nigricans, nudus aut inconspicuus. Hymenium jodo partim vinose rubens, partim fulvescens. Hypothecium subhymeniale jodo partim aeruginosum. Sporae 8:nae, decolores, fusiformes, apicibus obtusis, septis transversis 7—6 (—5), loculis mediis longioribus, long. 0.032—0.028, crass. 0.008—0.005 mm, membrana haud gelatinoso-incrassata, jodo dilute rubescente. — Sporis ab *O. cylindrica* differt et affinis *O. septemseptatae* Vain.

Luzon, prope Manilam, *Merrill 8532*. Ad corticem arborum.

8. **O. arengae** Vain. sp. nov.

Thallus sat tenuis aut modice incrassatus, verruculoso- aut leproso-inaequalis, cinereo-glaucescens aut sordide cinereus, opacus, continuus aut partim rimulosus, linea hypothallina nigricante fusce-scenteve limitatus. Apothecia crebra aut partim sparsa, long. 1.5—0.2, lat. 0.2—0.15 mm, oblonga aut numerosa etiam rotundata, sat recta aut leviter curvata, simplicia aut raro furcata, apicibus obtusis aut rotundatis, prominentia, modice elevata aut sat tenuia, lateribus praeruptis. Perithecium fuligineum, integrum, labiis conniventibus, anguste hiantibus, laevigatis, sat tenuibus aut leviter incrassatis, nigricantibus aut cinereo-nigricantibus, nudis aut parce maculatim tenuiter subthallodice obductis, opacis. Discus rimaeformis, impressus, nigricans, nudus. Hymenium jodo fulvescens aut partim subrubescens. Sporae 8:nae, decolores, fusiformes, apicibus acutis aut sat obtusis, septis transversis 10—7, loculis sat aequalibus, long. 0.040—0.032, crass. 0.005—0.003 mm, membrana haud gelatinosa. — Affinis est *O. cylindricae* Raddi, habitu magis *O. atram* in memoriam revocans.

Negros, Cabancalan, *Merrill 6739*. Ad petiolos *Arengae sachariferae*.

9. **O. irosina** Vain. sp. nov.

Thallus tenuis, continuus, leviter verruculoso-inaequalis, olivaceo-fuscescens, opacus, hypothallo nigricante limitatus. Apothecia sparsa, long. 0.8—0.5, lat. 0.3—0.2 mm, vulgo oblonga, recta aut

rarius subflexuosa curvatave, simplicia aut raro parce ramosa, apicibus obtusis aut rotundatis, sat elevata, lateribus praeruptis aut basi leviter constricta. Perithecium fuligineum, integrum, labiis conniventibus, anguste hiantibus, laevigatis, modice incrassatis, nudis, opacis. Discus rimaeformis, leviter impressus, nigricans, nudus. Hymenium jodo lutescens aut dilutissime glaucescens. Hypothecium subhymeniale albidum, jodo partim aeruginosum. Epithecium pallidum. Sporae 8:nae, decolores, bacillares aut aciculares, rectae, apicibus obtusis, septis transversis 10 (—6), loculis aequalibus aut apicalibus longioribus, long. 0.055—0.041, crass. 0.005—0.004 mm, membrana haud gelatinosa. — Proxima *O. cylindricae* Raddi, quae praesertim sporis ab ea differt.

Luzon, Subprov. Sorsogon, Irosin, *A. D. E. Elmer 14654* pr. p. Ad corticem arboris n. 14650.

10. **O. leptoterodes** Nyl. Lich. Ceyl. 18.

Thallus tenuis, continuus, leviter verruculoso-inaequalis, albido- aut cinereo-glaucescens, opacus, hypothallo nullo distincto. Apothecia crebra, long. 0.6—0.15 (—1.5), lat. 0.15 (—0.1) mm, vulgo oblonga, rarius elongata aut ellipsoidea rotundatave, sat recta aut raro leviter curvata, simplicia aut raro ad instar ramorum parce confluentia, apicibus obtusis aut rotundatis, tenuia, prominentia, lateribus sat praeruptis. Perithecium fuligineum, integrum, labiis tenuibus, conniventibus, vulgo anguste hiantibus, laevigatis, nudis, opacis. Discus rimaeformis, leviter aut parum impressus, nigricans, nudus. Hymenium 0.040—0.045 mm crassum, jodo fulvescens. Epithecium pallidum aut partim fuscescens. Asci long. circ. 0.034, lat. 0.012 mm. Sporae 8:nae, polystichae, decolores, fusiformes, apicibus obtusis aut sat obtusis, rectae aut rarius leviter curvatae, 3-septatae, loculis aequalibus, long. 0.014—0.015, crass. 0.003 mm, membrana nec incrassata nec gelatinosa. — *O. atram* in memoriam revocans.

Luzon, prope Manilam, *Merrill 8531.* Ad corticem *Strebli asperi.* — N. *8525* apotheciis saepe longioribus et labiis vulgo clausis ab *O. leptoterode* differt (var. **Merrillii** Vain.). Eodem loco lectus.

11. **O. gregalis** Vain. sp. nov.

Thallus tenuis, continuus, laevigatus, albidus, leviter nitidus, linea hypothallina fuscescente partim limitatus. Gonidia cellulis subglobosis, 0.005—0.007 mm latis, concatenatis, ad Trentepohliam pertinentia. Apothecia saepe aggregata, partim irregulariter aut subradiatim confluentia, long. 1—0.2, lat. 0.15—0.1 mm, elongata aut oblonga rotundatave, sat recta aut leviter flexuosa, simplicia aut parce furcata, apicibus obtusis aut rotundatis, tenuia, immersa aut leviter emergentia. Perithecium fuscofuligineum, integrum, labiis tenuibus, conniventibus, hiantibus, margine nudis, opacis. Discus rimaeformis, leviter aut parum impressus, nigricans, nudus. Hymenium jodo caerulescens. Epithecium decoloratum aut pallidum. Paraphyses crass. 0.001 mm, ramoso-connexae. Asci clavati, long. 0.026—0.034, crass. 0.009—0.014 mm. Sporae 8:nae, polystichae, decolores, fusiformes, rectae, apicibus obtusis aut sat acutis, long. 0.012—0.011, crass. 0.0025—0.002 mm, membrana tenui, haud gelatinosa.

Palawan, Taytay, *Merrill 9037* pr. p. Ad corticem *Cocoës nuciferae.*

Sect. 2. **Pleurothecium** Müll. Arg.

12. **O. graphidiza** Nyl. Lich. Ang. 12; Vain. Cat. Welw. Afr. Pl. Lich. 444.

Thallus tenuis, continuus, laevigatus aut leviter increbreque verruculoso-inaequalis, albidus, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, long. 6—0.3, lat. 0.3—0.2 mm, vulgo elongata, flexuosa curvatave, simplicia aut raro parce ramosa, apicibus obtusis aut rotundatis, prominentia, lateribus basin versus sensim dilatatis. Perithecium fuligineum, dimidiatum, labiis conniventibus, hiantibus, laevigatis, modice incrassatis, strato tenui thallino obductis aut vulgo demum fere totis aut superne vel irregulariter variegatim denudatis, opacis. Discus rimaeformis, distincte aut leviter impressus, nigricans, nudus. Hymenium jodo intense persistenter caerulescens. Sporae 8:nae, decolores aut demum morbose obscuratae, fusiformi-elongatae, api-

cibus obtusis, rectae aut leviter curvatae, septis transversis 9—6, loculis cylindricis, long. 0.033—0.026, crass. 0.007—0.005 mm, membrana haud gelatinosa.

Insula Ubian, *Merrill 5404*. Ad corticem alicujus plantae succulentae.

13. **O. hoyae** Vain. sp. nov.

Thallus tenuis, continuus aut raro subdispersus, laevigatus, albus, sat opacus, hypothallo fuscescente aut dilute fuscescente partim limitatus. Apothecia crebra aut rarius sat crebra, long. 5—0.2, vulgo 1.5—0.7, lat. 0.25—0.15 mm, vulgo elongata aut oblonga, flexuosa curvatave aut sat recta, simplicia aut raro parce ramosa aut ad instar ramorum confluentia, apicibus obtusis rotundatisve aut raro acutis, distincte modice prominentia aut rarius semiimmersa, lateribus praeruptis aut rarius basin versus sensim dilatatis. Perithecium fuligineum, dimidiatum, labiis conniventibus, hiantibus, laevigatis, sat tenuibus, nudis aut rarius basin versus amphithecio thallino tenui anguste aut variegatim obductis, opacis. Discus rimaeformis, impressus, nigricans aut raro fusco-nigricans, opacus, raro demum leviter dilatatus. Hymenium jodo dilute fulvo-rubescens (aut in apotheciis vetustis, sporis destitutis, dilute caerulescens). Paraphyses increbre ramoso-connexae, apicibus fusco-clavatis. Sporae 8:nae, decolores, fusiformes, apicibus sat obtusis, rectae, septis transversis 7—5, loculis aequalibus, long. 0.020—0.017, crass. 0.003 mm, membranis nec incrassatis nec gelatinosis. — Proxime affinis *O. graphidizae* Nyl.

Insulae Pabellones in sinu Taytay prope Palawan, *Merrill 9010*. Ad corticem *Hoyae*.

14. **O. consors** Vain. sp. nov.

Thallus tenuis, continuus aut dispersus, sat laevigatus aut leviter verruculoso-inaequalis, glaucescens aut glauco-pallescens, parum nitidus, hypothallo nullo distincto. Apothecia crebra, long. 1—0.3, lat. 0.2 (—0.15) mm, vulgo oblonga, recta aut raro leviter curvata, simplicia, apicibus obtusis, prominentia, modice elevata, lateribus praeruptis. Perithecium fuligineum, dimidiatum, labiis conniventibus,

hiantibus, laevigatis, sat tenuibus, nudis aut ad basin vix distincte angustissimeve amphithecio thallino obductis. Discus rimaeformis, impressus, nigricans, nudus. Hymenium resinoso-guttulosum, jodo fulvescens. Asci long. 0.050, crass. 0.014 mm. Sporae 8:nae, distichae, decolores, subovoideo-oblongae, rectae, apicibus rotundatis, 3-septatae, loculis aequalibus, cylindricis, haud constrictae, long. 0.017—0.014, crass. 0.006—0.004 mm, membrana haud gelatinosa. Pycnoconidangia margini perithecii immersa. Pycnoconidia cylindrica, recta, long. 0.0035—0.003, crass. 0.0005 mm. — Specimen n. 6778 in Malacca a Maingay lectum in herb. Nyl., dubitanter a Nyl. ad *O. adtinentem* Nyl. (Lich. East As. 58, Sert. Lich. Lab. 22) ductum, habitu plantae nostrae simile est, sporis fusiformibus ab ea recedens. Vera *O. adtinens* (n. 6779) sporis 5—3-septatis et apotheciis discoque angustioribus ab ea differt.

Luzon, prope Manilam, *Merrill 8519.* Ad corticem *Strebli asperi.*

15. **O. discolor** Vain. sp. nov.

Thallus modice incrassatus aut sat tenuis, subcontinuus, sat laevigatus aut leviter verruculoso-inaequalis, cinerascens, opacus, hypothallo nigricante, praesertim ad ambitum thalli conspicuo. Apothecia sparsa, long. 1.8—0.2, lat. 0.15 (—0.3) mm, vulgo oblonga elongatave, recta aut rarius leviter curvata, simplicia, apicibus obtusis, prominentia, sat tenuia aut modice elevata, lateribus praeruptis. Perithecium fuligineum, dimidiatum, labiis conniventibus, hiantibus, laevigatis, sat tenuibus, nudis, nigricantibus. Discus rimaeformis, bene aut leviter impressus, interdum medio paullo distinctius dilatatus, nigricans, nudus. Hymenium jodo fulvescenti-rubescens. Paraphyses ramoso-connexae, apice saepe partim obscuratae. Asci long. circ. 0.038—0.032, lat. 0.014—0.012 mm. Sporae 8:nae, polystichae, decolores, elongatae aut bacillares, apicibus obtusis, rectae, 3-septatae, loculis cylindricis, sat aequalibus, long. 0.014—0.013, crass. 0.003—0.002 mm, membrana haud gelatinosa. — Thallo ab aliis speciebus distinguitur.

Luzon, Subprov. Rizal, *Bur. Sci. 13449 Ramos.* Ad corticem arboris.

Sect. 3. **Phyllographa** Müll. Arg.

16. **O. filicina** Mont. Lich. Cub. 184, Lich. Guy. n. 154, Syll. Lich. 350; Müll. Arg. Lich. Beitr. (Fl. 1880) n. 159, (1883) n. 687; Born. Rech. Gon. Lich. 19, tab. 9; Hariot Not. Cephaleur. 5. *Opegraphella* Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1540 pr. p. (Lich. Tonk. 184), Lich. Epiphyll. 20 pr. p. — Vain. Lich. Bras. Exs. n. 261 (descriptus in Ét. Lich. Brés. II 133).

Thallus tenuissimus, continuus aut laceratus subdispersusve, laevigatus, glaucescens aut obscure vel olivaceo-cinerascens, opacus, hypothallo fuscescente obscuratove tenuissimo interdum inter areolas aut ad ambitum thalli conspicuo. Apothecia vulgo sat approximata, long. 1.2—0.2, lat. 0.15—0.1 mm, vulgo oblonga, recta aut leviter flexuosa curvatave, simplicia, prominentia, sat tenuia, apicibus obtusis aut rotundatis, lateribus sat praerupte obliquis. Perithecium fuligineum, dimidiatum, labiis conniventibus, clausis, laevigatis, tenuibus, nigricantibus, nudis, sat opacis aut leviter nitidis. Discus rimaeformis, inconspicuus aut interdum leviter impressus, nigricans, nudus. Hymenium jodo fulvescens. Asci long. circ. 0.040, lat. 0.012 mm. Sporae 8:nae, decolores, rectae, fusiformes, apicibus sat acutis, septis transversis 5, loculis cylindricis, aequalibus, long. 0.020—0.016, crass. 0.004 mm. Pycnoconidangia subglobosa, long. circ. 0.1, lat. 0.07—0.06 mm, fuscofuliginea, ostiolo ellipsoideo aut orbiculari, lat. 0.030—0.045 mm. Pycnoconidia oblonga, recta, apicibus obtusis aut rotundatis, long. 0.002, crass. 0.0005 mm, numerosa. Hyphae thalli decolores, crass. 0.001—0.0015 mm. Gonidia dichotome radiato-ramosa, ramis crebre ramoso-connexis, saepe demum etiam latere crebre irregulariterque confluentibus, sat crebre septata, cellulis oblongis aut sat irregularibus, 0.003—0.002 mm latis, haud constricta, ad *Heterothallum chlathratum* Vain. pertinentia. Una cum his gonidiis in thallo saepe parce etiam adest *Phycopeltis tropica* (Moebius) Hansg. (conf. p. 149). — *O. filicina* Mont. secundum specimen orig. e Cuba (n. 6788 in herb. Nyl.) habitu plantae nostrae est similis. *O. phyllobia* Nyl. (Fl. 1874 p. 73) secundum specim. orig. e Bahia (n. 6787 in herb. Nyl.) thallo instructa est sat continuo, apotheciis long. 2—0.3, lat. 0.25—0.3 mm, basin versus sensim

acutato-dilatatis, apicibus vulgo rotundatis, „sporis long. 0.036, crass. 0.007 mm, 11-septatis“, pycnoconidia „bacillaria, long. 0.0035, crass. 0.0007 mm“. (Sert. Lich. Labuan 22).

Polillo, *Robinson*. Luzon, Subprov. Bataan, Limay, *Bur. Sci. 9638 Robinson*; Subprov. Tayabas, prope flumen Anoling et viam Siniloan, *Robinson*. Ad folia *Connaracearum* aliarumque arborum.

Sect. 4. **Aulaxina** (Fée) Vain.

17. **O. insularis** Vain. sp. nov.

Thallus tenuissimus, dispersus, areolas 1—0.2 (—1.5) mm latas, orbiculares aut difformes, dispersas aut sat crebras formans, sat laevigatus aut raro leviter inaequalis, interdum irregulariter undulatus, glaucescens vel cinereo-glaucescens, leviter nitidus, hypothallo indistincto. Apothecia in areolis thalli subsolitaria, long. 0.7—0.15 (—1.5), lat. 0.15—0.1 mm, vulgo oblonga, saepe etiam ellipsoidea rotundatave, raro trigona, recta aut leviter curvata, simplicia aut raro parce brevissimeque ramosa, apicibus obtusis aut rotundatis, prominentia, tenuia, lateribus basin versus sensim dilatatis aut raro sat praeruptis. Perithecium fuligineum, dimidiatum, labiis conniventibus, hiantibus aut rarius clausis, laevigatis, tenuibus, nigris, leviter nitidis aut sat opacis, nudis. Discus inconspicuus aut saepe rimaeformis, leviter aut parum impressus, nigricans nudusque aut raro cinerascens. Epithecium decoloratum. Paraphyses ramoso-connexae, tubulis tenuissimis, gelatinam percurrentibus. Sporae 8:nae, polystichae, decolores, bacillari-oblongae, apicibus obtusis, rectae aut leviter curvatae, septis transversis 3, loculis cylindricis, sat aequalibus, long. circ. 0.025, crass. 0.005 mm, membrana tenui, haud gelatinosa. Gonidia globosa, simplicia aut bicellulosa, diam. 0.008—0.004 mm, flavescentia, *pleurococcoidea*. — Proxime affinis *Aulaxinae opegraphinae* Fée Ess. Crypt. Écorc. XCIV, C (LX), tab. II fig. 6, Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1531, p. 191.

Polillo, *Robinson*. Luzon, Subprov. Tayabas, Infanta, mons Binuang, *Robinson*. Ad folia plantarum.

4. **Mycopegrapha** Vain. gen. nov.

Mycelium gonidiis destitutum. Apothecia opegraphoidea. Perithecium bene evolutum, obscuratum, labiis conniventibus, amphithecio nullo obductis. Paraphyses ramoso-connexae. Asci clavati, majore parte membrana modice incrassata. Sporae septis transversis divisae, loculis cylindricis. Parasita lichenum, ad fungos pertinens.

1. **L. hymeniicola** Vain. sp. nov.

Thallus macula nigricante in disco *Lecanorae lividocarneae* indicatus. Apothecia approximata aut sparsa, prominentia, rotundata aut ellipsoidea aut oblonga, long. 0.15—0.3, lat. 0.15 mm, simplicia. Perithecium fusco-fuligineum, integrum, labiis conniventi-hiantibus, acutis. Discus rimaeformis aut angustus, nigricans, nudus. Hymenium jodo partim levissime caerulescens. Paraphyses crass. 0.0015 mm, ramoso-connexae, haud gelatinosae. Asci late clavati, long. 0.030, crass. 0.016 mm. Sporae 8:nae, distichae, decolores, fusiformes aut oblongae, apicibus obtusis aut rotundatis, 3-septatae, loculis aequalibus, long. 0.014—0.016, crass. 0.004—0.005 mm, membrana modice incrassata, haud gelatinosa.

Luzon, Subprov. Benguet, Pauai, *Merrill.* Parasita in hymenio *Lecanorae lividocarneae* Vain. (n. 6650).

5. **Chiodecton** (Ach.) Vain.

Subg. 1. **Enterographa** (Fée) Müll. Arg.

1. **Ch. anguineilum** (Nyl.) Vain. *Stigmatidium* Nyl. Lich. Nov.-Gran. ed. 2 p. 96, Lich. Jap. 84.

Thallus tenuis, verruculis minutissimis inspersus, substramineo-albicans, KHO parum reagens (partim subflavescens), leviter nitidus, hypothallo indistincto. Apothecia thallo immersa, crebra, long. 2.8—0.7 (—0.3), lat. circ. 0.1—0.05 mm, flexuosa, dichotome aut subradiatim ramosa, ramis 1—16, aut simplicia, apicibus sensim attenuatis. Hypothecium albidum. Parathecium nullum distinctum. Discus apertus, haud impressus, rufescens aut fusco-rufescens, hu-

midus testaceus, nudus. Hymenium jodo dilute fulvo-rubescens. Margo thallinus jodo caerulescens, haud aut parum prominens. Paraphyses increbrae, tenuissimae, bene ramoso-connexae. Epithecium rubricoso-rufescens. Asci clavati, membrana fere tota leviter incrassata. Sporae 8:nae, decolores, fusiformes, rectae, apicibus sat acutis, septis transversis 7, strato gelatinoso circ. 0.003 mm crasso indutae, long. 0.022, crass. 0.003 mm (strato gelatinoso non computato). — Specimen orig. 4572 in herb. Nyl. habitu plantae nostrae omnino simile.

Palawan, Taytay, *Merrill 9033* pr. p. Ad corticem *Calophylli*.

2. **Ch. calophylli** Vain. sp. nov.

Thallus tenuis, verruculis minutissimis inspersus aut sat laevigatus, substramineo-albicans, KHO parum reagens (partim subflavescens), leviter nitidus, hypothallo indistincto. Apothecia thallo immersa, sat crebra, long. 2—0.5, lat. 0.15—0.05 mm, flexuosa, dichotome aut subradiatim ramosa, ramis 1—10, aut simplicia, apicibus sensim attenuatis, margine jodo haud caerulescente nec a thallo differente aut levissime prominente thallinoque. Hypothecium albidum. Parathecium nullum distinctum. Discus apertus, haud aut parum impressus, humidus obscure rufescenti-rubescens, nudus. Hymenium jodo dilute fulvo-rubescens. Epithecium rubricoso-rufescens. Sporae 8:nae, decolores, fusiformes, sat rectae, apicibus sat acutis, septis transversis 10, strato gelatinoso modice incrassato indutae, long. 0.031—0.038, crass. 0.0025—0.003 mm (strato gelatinoso non computato). — *Ch. anguinello* Nyl. proxime affine et habitu consimile, at sporis 10-septatis et disco obscuriore et partim paullo latiore ab eo differens. His affine etiam est *Ch. substellatum* Vain. (Addit. Lich. Antill. 168).

Palawan, Taytay, *Merrill 9033* pr. p. Ad corticem *Calophylli* una cum specie praecedente.

3. **Ch. angustissimum** Vain. sp. nov.

Thallus tenuissimus, laevigatus, sordide stramineo-glaucescens, opacus, jodo non reagens, crebre contextus, hypothallo indistincto.

Apothecia sat crebra aut sparsa, long. 1—0.1, lat. circ. 0.05 mm, elongata ellipsoideave aut rotundata, saepe flexuosa, simplicia aut rarius furcata aut raro iteratim dichotome ramosa, pseudostromati immersa marginem circa discum formanti, 0.2—0.15 mm lato, crebre contexto, sordide albido, leviter aut levissime prominenti, basin versus sensim dilatato. Parathecium stramineo-albidum. Hypothecium albidum. Discus apertus, haud impressus, testaceo- aut livido-rufescens, subnudus, lat. 0.06—0.04 mm. Hymenium jodo non reagens. Epithecium subalbidum. Asci ellipsoidei, long. 0.040—0.030, lat. 0.018—0.016 mm. Paraphyses ramoso-connexae, tubulis 0.0005 mm crassis, gelatinam percurrentibus. Sporae 8:nae, polystichae, decolores, fusiformes, apicibus obtusis, rectae aut leviter curvatae, septis transversis 5—3, strato gelatinoso tenui indutae, long. 0.023—0.017, crass. 0.0035—0.003 mm (strato gelatinoso non computato).

Luzon, Subprov. Rizal, *Bur. Sci. 17000* pr. p. *Ramos.* Ad corticem *Bambusae.*

Subg. 2. **Stigmatidiopsis** Vain.

4. **Ch. inconspicuum** Knight et Mitt. in Knight Contr. Lich. New Zeal. 280 (Transact. Linn. Soc., 1878); Müll. Arg. Consp. Lich. Nov. Zel. 85. *Platygrapha inconspicua* Knight et Mitt. Contr. Lich. New Zeal. (1860) 103 fig. 24; Hook. f. Hand. New Zeal. Fl. 588. *Ch. submoniliforme* Nyl. Lich. Nov. Zel. (1888) 117.

Thallus sat tenuis, verruculis minutissimis crebre inspersus, creberrime contextus, albidus aut sordide albicans, leviter nitidus, KHO non reagens, hypothallo nigricante, crebre contexto, partim limitatus. Pseudostromata sat crebra, leviter prominentia, oblonga aut difformia, long. 2.5—1, lat. 0.6—0.35 mm, simplicia aut leviter ramosa aut irregulariter confluentia, flexuosa curvatave, depresso-convexa, laevigata, alba, leviter nitida, KHO non reagentia, crebre contexta, lateribus leviter obliquis aut sat praeruptis, intus alba, hymenia numerosa, uniseriatim disposita, continentia. Disci rotundati punctiformesque, diam. 0.05—0.1 mm, aut raro transversim ellipsoidei et long. 0.2 mm, haud impressi, atri, nudi, plani. Hypothecium rufe-

scens aut pallido-rufescens, crassum, KHO sordide aut nigricanti-virescens. Hymenium circ. 0.170—0.150 mm crassum, jodo persistenter caerulescens. Epithecium subdecoloratum aut rufescenti-pallidum et KHO dilute nigricanti-virescens. Paraphyses parce ramoso-connexae, crass. 0.0015—0.0012 mm, apicem versus sensim incrassatae (0.002 mm). Asci anguste clavati, long. 0.060 mm. Sporae 8:nae, decolores, aciculares [observante Nyl. „long. 0.046—0.050, crass. 0.002 mm, 3-septatae"]. In specimine a Nyl. examinato „hypothecium sat tenuiter fuscescens, gel. hym. jodo caerulescens, dein fulvo-rubescens". Pycnoconidia subfusiformia, recta, apicibus acutis, long. 0.006—0.003, crass. 0.0005 mm. Sterigmata simplicia, apicibus conidia efferentibus, long. 0.050, crass. 0.001—0.0005 mm. — *Ch. lineolare* (Nyl.) Vain. (*Ch. seriale* f. *lineolare* Nyl. Sert. Lich. Labuan 10) autonoma est species, quae apotheciis dendroideo-ramosis, haud punctiformibus a *Ch. seriali* Ach. et *Ch. inconspicuo* distinguitur.

Luzon, Subprov. Bataan, Limay, *Bur. Sci. 9624 Robinson.* Ad corticem arboris.

5. **Ch. piperis** Vain. Étud. Lich. Brés. II 141, Lich. Bras. Exs. 1368.

Var. **manilensis** Vain.

Thallus tenuis, leviter verruculoso-inaequalis, stramineo-glaucescens, leviter nitidus, creberrime contextus, hypothallo nigricante crebre contexto vulgo limitatus. Pseudostromata sat crebra, prominentia, oblonga aut ellipsoidea rotundatave, long. 2—0.3, lat. 0.6—0.3 mm, simplicia aut rarius ramis 1—3 instructa, aut irregulariter confluentia, saepe flexuosa, depresso-convexa, laevigata aut raro limbo verruculoso-crenulato, albida aut thallo fere concoloria, leviter nitida aut opaca, crebre contexta, basi constricta aut lateribus sat praeruptis, intus fuscofuliginea, strato amphitheciali obducta thallino, circ. 0.040 mm crasso, gonidiis instructo, intus albido, hymenia solitaria aut raro 2 (—4) continentia. Disci rotundati aut elongati, simplices aut rarius parce ramosi, lat. 0.1—0.3 mm, haud impressi, plani, atri, nudi. Hypothecium fuscofuligineum, circ. 0.030—0.080

mm crassum. Parathecium fuscofuligineum, circ. 0.030—0.040 mm crassum. Hymenium crass. circ. 0.100 mm, jodo intense persistenterque caerulescens. Epithecium fuscofuligineum aut dilute fuscescens. Sporae 8:nae, decolores, aciculares, rectae aut leviter curvatae, apicibus attenuatis, altero apice sat obtuso, altero sat acuto, 3-septatae, long. 0.030—0.032, crass. 0.0015 mm, haud gelatinosae. — Praesertim reactione hymenii a speciminibus brasilianis differt.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8556 McGregor*. Ad corticem (*Piperacearum*, ut videtur).

6. **Ch. emergens** Vain. sp. nov.

Thallus sat tenuis, verruculoso-inaequalis, cinerascens aut cinereo-glaucescens, leviter nitidus, KHO non reagens, creberrime contextus, hypothallo nigricante aut pallido-fuscescente, creberrime contexto saepe limitatus. Pseudostromata leviter aut modice prominentia, rotundata aut raro ellipsoidea, diam. 0.6—0.35 mm, sat crebra, simplicia aut raro 2 confluentia, depressa, sat laevigata, pallescenti-albida aut rarius thallo subconcoloria, leviter nitida, creberrime contexta, KHO non reagentia, basin versus sensim dilatata aut sat praerupta, strato amphitheciali obducta thallino, gonidiis concatenatis, 0.007—0.010 mm crassis, trentepohlioideis instructo, intus albido, hymenia solitaria continentia. Disci rotundati aut raro ellipsoidei, lat. 0.2—0.3 mm, haud aut leviter impressi, plani, livido-rufescentes aut nigricantes, subnudi. Hypothecium olivaceo-fuscescens aut olivaceum, tenue, 0.020—0.030 mm crassum. Parathecium olivaceo-fuscescens, crass. 0.030—0.040 mm. Hymenium 0.090—0.120 mm crassum, jodo fulvo-rubescens aut dilute rufescens (haud caerulescens). Epithecium decoloratum. Paraphyses ramoso-connexae, gelatinam percurrentes, crass. 0.001 mm, sat crebre septatae. Asci clavati, membrana fere tota leviter incrassata. Sporae 8:nae, distichae, decolores, oblongo-fusiformes aut ovoideo-oblongae, rectae, apicibus obtusis, 3-septatae, saepe strato gelatinoso tenui indutae. — Ad *Mazosias* accedens.

Luzon, prope Manilam, *Merrill 8523*. Ad corticem arbusti.

7. **Ch. tentaculatum** Vain. sp. nov.

Thallus modice incrassatus aut sat crassus, verrucoso-inaequalis, verrucis elevatis, convexis, 0.004—0.003 mm latis, stramineus, opacus, KHO non reagens, crebre contextus, continuus, hypothallo livido-fuscescente, crebre contexto, zonam 1—2 mm latam formante, limitatus. Pseudostromata sat crebra aut parce subcontigua, bene prominentia, rotundata aut rarius ellipsoidea, long. 2—0.7, lat 1.4—0.7 mm, simplicia, depressa, latere verrucoso aut sublobato, aut sat laevigata, thallo concoloria aut vertice dilute cinereo-fuscescentia, opaca, crebre contexta, KHO non reagentia, basi bene constricta, strato obducta thallino, amphitheciali, gonidia pilis emergentibus instructa continente, albido, intus fusconigra, hymenia vulgo numerosissima aut raro paruca continentia. Disci rotundati aut difformes aut oblongi et flexuosi ramosique aut simplices aut partim confluentes, long. 0.8—0.05, lat. 0.25—0.05 mm, haud aut raro leviter impressi, plani, nigri, nudi, opaci. Hypothecium fusconigrum, crassum, interdum strato subhymeniali tenui albido. Parathecium fusconigrum. Hymenium circ. 0.120 mm crassum, jodo persistenter caerulescens. Epithecium fuscescens aut dilute vel subviolacee fuscescens. Paraphyses ramoso-connexae, tubulis 0.001—0.0015 mm crassis, gelatinam haud abundantem percurrentibus. Asci long. circ. 0.065, crass. 0.012 mm. Sporae 8:nae, decolores, aciculares, altero apice attenuato acutoque, altero obtuso aut sat obtuso, sat rectae, septis 3—4, long. 0.050—0.030, crass. 0.0015 mm, haud gelatinosae. Thallus hyphis 0.003 mm crassis. Gonidia ad *Nylanderam tentaculatam* Hariot (Not. sur Trentep. 41: Journ. de Bot. 1889—1890) pertinentia, cellulis subglobosis, diam. 0.008—0.014 mm, concatenatis, filamenta ramosa formantibus, pilis 0.020—0.030 mm longis, 0.0015—0.0017 mm crassis, simplicibus, decoloribus, saepe e thallo emergentibus. — *Ch. congestulum* Nyl. (Fl. 1867 p. 196, Syn. Lich. Nov. Cal. 67) secundum specim. orig. n. 4487 e Lifu in herb. Nyl. et *Ch. stromaticum* Knight (*Ch. sphaerale* Ach. ex opinione Nylanderi) sec. sp. orig. n. 4443 gonidiis ad *Trentepohliam* pertinentibus instructa sunt.

Insulae Marianae, Guam, *McGregor 613*. Ad corticem arboris.

8. **Ch. endococcineum** Vain. sp. nov.

Thallus modice incrassatus, sat laevigatus aut subrugosus, impure pallido-glaucescens, opacus, intus albus, maculis rubris, KHO violascentibus, superae KHO subolivaceus, partim dispersus, hypothallo fusco-nigricante, crebre contexto. Pseudostromata dispersa, bene prominentia, vulgo rotundata, diam. 1.5—0.7 mm, depresse convexa aut planiuscula, basi constricta, thallo concoloria, subnitida, crebre contexta, laevigata, strato obducta thallino, gonidiis instructo, intus albido, maculas coccineas continente, ceterum intus violacco-fuliginea, hymenia numerosissima continentia. Disci punctiformes aut subellipsoidei, lat. circ. 0.05 mm, simplices, haud impressi, plani, nigricantes, nudi, opaci. Hypothecium nigricans aut fusconigrum, bene evolutum. Parathecium subviolacco-fuligineum. Hymenium circ. 0.160 mm crassum, jodo caerulescens. Epithecium decoloratum. Asci clavati, crass. 0.010—0.014 mm. Sporae 8:nae, polystichae, decolores, aciculares, apicibus acutis, rectae, 3-septatae, long. 0.030—0.026, crass. 0.003 mm. — Proxima est *Ch. natalensi* Nyl.

Luzon, Subprov. Apayao, mons Sulu, *Bur. Sci. 28459 E. Fénix.* Ad corticem arboris.

9. **Ch. natalense** Nyl. Note Lich. Port-Natal (1868) 13.

Thallus modice incrassatus, verrucoso-inaequalis et pustulato-rugosus, sordide albicans, opacus, KHO non reagens, crebre contextus, continuus aut rarius partim subareolatus, partim sat laxe adnatus, subtus cinerascenti-obscuratus, hypothallo nullo distincto. Pseudostromata dispersa aut partim sat crebra, bene prominentia, rotundata aut raro ellipsoidea, diam. 2—0.7 mm, ambitu vulgo sublobato-tuberculato tuberculosove, convexa aut raro depressa, thallo concoloria, opaca, KHO non reagentia, crebre contexta, basi bene constricta, strato obducta thallino amphitheciali, gonidiis instructo, intus albido et partim maculas coccineas continente, ceterum intus fuscescentia, hymenia vulgo numerosissima continentia. Disci punctiformes, rotundati aut ellipsoidei difformesve, long. 0.3—0.05, lat. 0.2—0.05 mm, simplices, haud aut parum impressi, plani, nigri-

cantes, nudi, opaci. Hypothecium fuscescens aut rubricosum. Parathecium indistinctum albidumve. Hymenium circ. 0.120—0.140 mm crassum, jodo persistenter caerulescens. Epithecium pallidum aut decoloratum. Paraphyses increbre ramoso-connexae, tubulis 0.001 mm crassis, gelatinam percurrentibus, apicibus parum incrassatis. Asci long. circ. 0.070, crass. 0.014 mm. Sporae 8:nae, polystichae, decolores, aciculares, altero apice obtuso, altero attenuato acutoque, rectae, 5-septatae, long. circ. 0.050—0.048, crass. 0.003 mm. — *Ch. natalense* Nyl. thallo „albido subbyssino" l. c. descriptum est, at secundum specimen orig. plantae nostrae consimile.

Luzon, Subprov. Bataan, mons Marivcles, *Merrill 3974.* Ad corticem arboris.

10. **Ch. philippinum** Vain. sp. nov.

Thallus modice incrassatus aut sat crassus, membranas latas (—8 cent.) formans, sat laevigatus aut leviter verruculoso-inaequalis, isidiis instructus crebris aut sparsissimis, cylindricis aut verruculoso-inaequalibus, 1—0.2 mm longis, 0.002—0.0015 mm crassis, simplicibus aut raro furcatis, apice obtusis aut rotundatis, albidus aut dilute caesio-cinerascens, opacus, KHO non reagens, continuus, crebre contextus, partim sat laxe adnatus aut plicas e substrato liberas formans, subtus albidus, hypothallo albo, crebre aut partim sat laxe contexto limitatus. Hyphae crass. 0.0015—0.0017 mm. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis, globosis aut anguloso-ellipsoideis, 0.008—0.005 mm crassis, membrana sat tenui. — *Ch. cineritium* (Ach.) et *Ch. Antillarum* Vain. (Addit. Lich. Antill. 169) thallo subtus nigricante ab hac specie differunt. Quia tantum sterilis lecta, incertum est anne ad subg. *Byssocarpon* pertineat.

Palawan, *Bur. Sci. 15636 Fénix.* Ad corticem arboris. Ster.

11. **Ch. polillense** Vain. sp. nov.

Thallus sat crassus, plagas latas formans, sat laevigatus, isidiis destitutus, glaucescens, opacus, KHO non reagens, crebre contextus, substrato arcte adnatus, subtus cinerascens aut partim albidus, hypo-

thallo crebre contexto, albido partim interruptus, partim linea pallida hypothallina limitatus, in H_2SO_4 crystallos aciculares decolores formans. Hyphae thalli crass. 0.0025—0.0017 mm. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis, globosis aut anguloso-subellipsoideis, bene constrictis, long. 0.007—0.017, crass. 0.006—0.014 mm. — Praecedenti affine.

Polillo, *Bur. Sci. 10485 McGregor.* Ad corticem arboris. Ster.

Subg. 3. **Byssophorum** Vain.

12. **Ch. podophthalmum** Vain. sp. nov.

Thallus sat crassus, laevigatus, continuus, laxe contextus, stramineo-flavescens, opacus, KHO non reagens, substrato sat arcte adnatus, subtus strato tenui hypothallino cinereo-fuscescente aut cinerascenti-obscurato, laxe contexto obductus, saepe partim etiam marginatus. Hyphae thalli crass. 0.0035—0.0025 mm, dichotome ramosae, increbre septatae, materia granulosa albido-straminea crebre obductae, membrana leviter incrassata. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis, anguloso-subglobosis, diam. 0.009—0.012 mm, aut ellipsoideis et long. 0.015 mm, hyphis obducta. Apothecia sparsa aut partim sat crebra, vulgo stipitata et alt. 2—0.5 mm aut p. p. sessilia prominentiaque, infundibuliformia, vertice 1.5—0.5 mm lato, rotundato aut leviter anguloso sublobatove, stipite cylindrico, 0.6—0.4 mm crasso, solido, thallo consimili, hymenia vulgo solitaria aut raro 2—3 continentia. Disci rotundati aut subangulosi aut raro ellipsoidei aut sublobati, diam. 1.5—0.4 mm, haud impressi, plani, livido-fuscescentes, opaci, nudi aut subpruinosi, amphithecio obvallati thallino, laxe contexto, sat tenui, basin versus sensim in stipitem continuato aut basi constricto. Hypothecium fuscescens, ceterum perithecium basale et parathecium fusconigrum. Hymenium circ. 0.120 mm crassum, jodo persistenter caerulescens. Epithecium fusconigrum, inaequale. Paraphyses parce ramoso-connexae, partim simplices, parce septatae, crass. 0.0015, apice 0.002 mm. Asci clavati, membrana fere tota leviter incras-

sata. Sporae 8:nae, polystichae, decolores, aciculares, altero apice obtuso, altero sensim attenuato, rectae, septis 1 aut 2 aut 3, long. 0.029—0.027, crass. 0.0025—0.0015 mm.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8551 McGregor*; Subprov. Lepanto, *For. Bur. 16025 E. Bacani.* Ad corticem pini cet.

13. **Ch. fuscocinctum** Vain. sp. nov.

Thallus sat crassus, minutissime verruculoso-inaequalis, isidiis destitutus, crebre contextus, cinerascens aut cinereo-fuscescens, opacus, KHO non reagens, hypothallo fusco, arcte adnato, laxe contexto impositus et interruptus cinctusque. Hyphae thalli crass. 0.003—0.004 mm, decolores, sat crebre dichotome ramosae et saepe ramoso-connexae. Hyphae hypothalli crass. 0.004—0.005 mm, fuscescentes, sat crebre dichotome ramosae. Gonidia ad Trentepohliam pertinentia, cellulis globosis aut anguloso-subglobosis, concatenatis, fila crebre ramosa formantibus. — In *Ch. nigrocincto* (Ehrenb.) Mont. (Syll. 356) secundum specimen e Guyana (n. 4551 in herb. Nyl.) et e Borbonia (a Leperv.-Mez. lectum, n. 4550 in herb. Nyl.) thallus isidiis instructus cylindricis, simplicibus aut ramosis, 1—2 mm longis, 0.2—0.15 mm crassis, pseudostromatibus albidis, leviter prominentibus, depressis, hymenia nigra, punctiformia, numerosa continentibus, perithecium fusco-nigrum, tenue, integrum aut basale („g. h. dilute vin. rub. vel fulv." ex Nyl. in sched.). Conf. etiam Müll. Arg. Graph. Feean. 65.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6276.* Ad corticem arboris.

14. **Ch. mycelioides** Vain. sp. nov.

Thallus sat crassus, laxe aut partim sat crebre contextus, glaucescens aut roseo-variegatus, opacus, KHO non reagens, verrucis sparsis aut aggregatis, hemisphaericis, laxe contextis, roseis aut rarius albidis, 0.3—0.15 mm latis, stromatoideis aut rarissime isidioideis et 0.4—0.3 mm longis, clavatis aut leviter applanatis, sterilibus instructus, subtus, cinerascenti-nigricans aut albido-variegatus, substrato sat arcte aut rarius partim sat laxe adnatus, hypothallo

laxe contexto, roseo partim limitatus. Hyphae thalli 0.002 mm crassae, parce septatae, valde increbre ramosae, partim demum granulis minutissimis amorphis obductae, decolores. Gonidia ad Trentepohliam pertinentia, cellulis subglobosis aut sat irregularibus, concatenatis, 0.006—0.007 mm crassis, hyphis affixa. In partibus roseis abundanter obvenit alga thallo filiformi, ramoso, cellulis haud aut irregulariter leviterque constrictis, 0.022—0.009 mm crassis, valde elongatis, membrana tenui, contento roseo, unde hypothallus aliaeque partes lichenis roseo-colorata. — Huic licheni affine est *Ch. heterotropum* Nyl. (Syn. Lich. Nov. Cal. 68), quod secundum specimen in Nov. Cal. lectum (n. 4543 in herb. Nyl.) ab eo differt verrucis thalli minoribus, minus laxe contextis, thallo subtus pallido, linea hypothallina cinerascente limitato.

Luzon, Subprov. Rizal, *Bur. Sci. 74 F. W. Foxworthy.* Ad plantas destructas in rupe.

15. **Ch. hamatum** Nyl. Exp. Lich. Nov. Cal. 51, Syn. Lich. Nov. Cal. 66, Fl. 1867 p. 196.

Var. **dispersa** Vain.

Thallus sat tenuis aut fere modice incrassatus, laxe aut sat laxe contextus, laevigatus, cinereus, opacus, substrato arcte adnatus, varie dispersus laceratusve, hypothallo fuscescente nigricanteve laxe contexto interruptus limitatusque. Hyphae hypothalli sub microscopio fuscescentes, laxe contextae, ramosae, crass. 0.003—0.002 mm. Pseudostromata sparsa, prominentia, irregulariter orbicularia aut rarius ellipsoidea, saepe leviter sublobata, diam. 1.2—0.6 mm, bene depressa, albida aut pallescenti-albida, parum nitida, creberrime contexta, basi constricta, strato amphitheciali albido, hymenia vulgo numerosissima (21—2) continens, hypotheciis fusconigris, partim confluentibus. Disci punctiformes, rotundati aut angulosi, diam. 0.001 - 0.0005 mm, haud impressi, plani, nigri, nudi. Hymenium jodo vinose rubens aut partim fulvescens. Epithecium dilute olivaceum aut decoloratum. Paraphyses sat parcae, ramoso-connexae, crass. 0.002 mm. Asci long. 0.070—0.065, crass. 0.016—0.014 mm. Sporae 8nae, decolores, aciculares, altero apice obtuso, altero sensim atte-

nuato acutoque et hamato-curvato, septis 7—5, loculis cylindricis, sat aequalibus aut loculo apicis curvati reliquis longiore aut etiam loculo tertio et sexto loculis viciniis longiore, long. 0.060—0.050, crass. 0.004—0.003 mm, membrana haud gelatinosa. — Huc pertinet etiam specimen n. 4492 in herb. Nyl., ad Monado in Celebe boreali a F. Riedel lectum, sporis „long. 0.075, crass. 0.0045 mm“ ex annot. Nylanderi. Specimen n. 4485 in herb. Nyl. in nova Caledonia a Vieillard lectum thallo continuo ab eo differt (var. **subcontinua** Vain.).

Mindanao, Subprov. Butuan, *C. M. Weber 1377*. Ad corticem arboris.

Subg. 4. **Rotularia** Vain.

Thallus crebre contextus, hypothallo crebre contexto. Pseudostroma ex amphithecio thallino, leviter elevato, crebre contexto constans, hymenium solitarium continens. Perithecium basale deficiens, laterale bene evolutum. Hypothecium dilute coloratum aut pallidum. Sporae pluriseptatae, decolores. Gonidia trentepohlioidea (heterothalloidea). — Hoc subgenus intermedium est inter *Stigmatidiopsim* et *Mazosiam*, a posteriore differens pseudostromatibus paullo distinctioribus et gonidiis heterothalloideis ramosisque.

16. **Ch. bambusae** Vain. sp. nov.

Thallus verruculis crebris aut rarius sparsis, hemisphaericis, minutissimis, circ. 0.04—0.05 mm latis instructus, ceterum laevigatus tenuissimusque, crebre contextus, sordide glaucescens, opacus, continuus, substrato arcte adnatus, hypothallo fusco-nigricante, crebre contexto, limitatus. Gonidia heterothalloidea, sicut in specie sequente. Apothecia crebra aut rarius sparsa, tenuia, verrucas formantia orbicularcs, 0.8—0.4 mm latas, leviter prominentes, applanato-depressas, latere sensim dilatatas, hymenium solitarium continentes. Discus orbicularis aut rarius leviter angulosus, diam. 0.5—0.15 mm, nigricans, nudus, opacus, planus aut rarius leviter convexus, haud impressus. Hymenium circ. 0.050 mm crassum, jodo fulvescens, verrucae immersum amphitheciali, stromatoidi, thallinae, thallo concolori aut vulgo demum cinereo-glaucescenti cinerascentive, crebre contextae, opacae, leviter minutissimeque verruculo-

so-inaequali aut sat laevigatae. Hypothecium pallescens, tenue, substrato impositum, gonidiis destitutum. Parathecium fusco-nigrum, conniventi-obliquum, bene evolutum, strato amphithecciali gonidia continente obductum, cum amphithecio marginem zeorinum saepe etiam in superficie apothecii conspicuum formans. Epithecium olivaceo- aut livido-pallidum aut decoloratum. Paraphyses tenuissimae, apice leviter incrassatae. Asci clavati, long. circ. 0.050, crass. 0.015 mm. Sporae 8:nae, polystichae, decolores, fusiformi-oblongae, apicibus obtusis, rectae aut curvatae, 3-septatae, loculis aequalibus, long. 0.019 -0.016 mm, crass. 0.005—0.004 mm, membrana sat tenui, haud gelatinosa. — Analogum est *Ch. granulari* (Müll. Arg.).

Luzon, Subprov. Rizal, *Bur. Sci. 17000* pr. p. *M. Ramos.* Ad truncum *Bambusae* una cum *Ch. angustissimo* Vain. et *Ch. Ramosii* Vain. — Postea collectum etiam in Subprov. Bulacan, Angat, *Bur. Sci. 21865 Ramos.*

17. **Ch. Ramosii** Vain. sp. nov.

Thallus tenuissimus, laevigatus, crebre contextus, glaucescens, opacus, continuus, substrato arcte adnatus, hypothallo fusco-nigricante, crebre contexto, limitatus. Gonidia cellulis difformibus aut subglobosis, diam. 0.005—0.010 mm, aut subellipsoideis, long. circ. 0.012 et lat. 0.006 mm, concatenatis, fila dichotome et irregulariter crebre ramosa formantibus, flavescentibus, *Trentepohliam* (*Heterothallum*) *diffusam* Wildem. (Sur Trentep. p. 5 in Bull. Soc. Roy. de Bot. XXVII, 1888, Hariot Not. Trentepohl. p. 38) in memoriam revocantia. Apothecia sat crebra aut rarius sparsa, tenuia, verrucas formantia orbiculares, 0.8—0.4 mm latas, leviter prominentes, applanato-depressas, latere sensim dilatatas aut vulgo demum sat praeruptas, hymenium solitarium continentes. Discus orbicularis aut rarius leviter angulosus, diam. 0.5—0.15 mm, nigricans aut fuscescens, nudus, opacus, planus, haud impressus, in verruca amphithecciali, stromatoide, thallina, thallo concolore aut vulgo demum cinereo-glaucescente cinerascenteve aut albido-cinerascente, crebre contexta, opaca, sat laevigata aut leviter minutissime verruculoso-inaequali. Hypothecium tenue, fuscescenti-pallidum, substrato impositum, gonidiis destitutum. Parathecium fusco-nigrum, conniventi-obliquum,

strato amphithecíali gonidia continente obductum, bene evolutum, cum amphithecio marginem zeorinum saepe etiam in superficie apothecii conspicuum formans. Hymenium circ. 0.050—0.045 mm crassum, jodo dilutissime glaucescens, dein fulvescens. Epithecium fuscescens aut livido-pallescens. Paraphyses ramoso-connexae, apice saepe fuscescenti-clavatae. Asci clavati, long. 0.050—0.040, crass. 0.014—0.015 mm, membrana primum fere tota modice incrassata, demum tenuiore. Sporae 8:nae, polystichae, decolores, fusiformes aut oblongae, apicibus obtusis aut altero apice sat acuto, rectae aut curvatae, 3-septatae, loculis sat aequalibus, long. 0.026—0.016, crass. 0.007—0.004 mm, membrana sat tenui, haud gelatinosa. Pycnoconidangia hemisphaerica, diam. circ. 0.16 mm, nigricantia (sub microscopio fusconigra), basin versus strato thallino (ad amphithecium respondente), levissime elevato obducta. Sterigmata simplicia, long. 0.004—0.003, crass. 0.0015 mm, apicibus conidia efferentibus. Conidia oblonga, long. 0.0025—0.002, crass. 0.0005 mm, apicibus obtusis aut rotundatis, simplicia. — Thallo laevigato a specie praecedente differt, ceterum habitu ei consimile.

Luzon, Subprov. Rizal, *Bur. Sci. 17000* pr. p. *M. Ramos.* Ad truncum *Bambusae.*

Subg. 6. **Mazosia** (Mass.) Vain.

18. **Ch. granulare** (Müll. Arg.) Vain. Addit. Lich. Antill. 170. *Rotula vulgaris β. granularis* Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1533. *Mazosia rotula* var. *granularis* Müll. Arg. Lich. Cost. (1891) 77.

Thallus verruculis crebris aut sat crebris, hemisphaericis, circ. 0.1—0.05 mm latis instructus, ceterum laevigatus tenuisque, crebre contextus, cinereo-glaucescens glaucescensve, hypothallo fuscescente, tenui, crebre contexto limitatus aut saepe etiam plus minusve interruptus. Gonidia ad *Phycopeltidem tropicam* (Moeb.) Hansg. pertinentia, cellulis vulgo oblongis, in series radiantes concatenatis, latere in membranam connatis. Apothecia sat crebra, leviter emergentia, crass. circ. 0.100—0.080 mm, basin versus sensim dilatata. Discus orbicularis aut anguloso-rotundatus, diam. 0.6—0.2 mm, fusco- aut raro livido-nigricans nigrescensve, nudus aut raro tenuiter

pruinosus (var. **subpruinosa** Vain.), planus, haud aut rarius leviter impressus, opacus, margine thallode, tenui, integro aut interdum fissuris transversis subcrenato, thallo concolore aut pallidiore. Hypothecium livido-fuscescens aut dilute olivaceo-virescens vel passim albidum, tenue, substrato impositum, gonidiis destitutum. Parathecium livido- aut olivaceo-fuscescens, conniventi-obliquum, strato amphitheciali thallino, gonidia continente, thallo concolore obductum. Hymenium 0.070—0.065 mm crassum, jodo vinose rubens. Epithecium decoloratum aut dilute livido-fuscescens olivaceumve. Paraphyses parce ramoso-connexae, maxima parte simplices, tubulis tenuissimis, membranis gelatinosis. Asci clavati, membrana maxima parte modice incrassata. Sporae 8:nae, polystichae, decolores, fusiformes aut fusiformi-oblongae, apicibus obtusis, vulgo rectae, 3-septatae, loculis fere aeque longis, long. 0.023—0.016, crass. 0.007—0.004 mm, membrana modice incrassata, haud gelatinosa. — Huc forsan pertinent *Platygrapha tumidula* Stirt. (Lich. Leav. Amaz., 1878, p. 5) et *Opegrapha melanophthalma* Müll. Arg. (Lich. Beitr., 1883, n. 584).

Polillo, *Robinson*. Luzon, Subprov. Bulacan, Norzagaray, *Bur. Sci. 13063* pr. p. *M. Ramos*, Angat, *Bur. Sci. 21862 Ramos*; Subprov. Bataan, Limay, *Bur. Sci. 9628 Robinson*; Subprov. Tayabas, Mons Binuang, *Bur. Sci. 28953 Ramos* et *Edaño*, prope viam Siniloan, *Robinson*; Subprov. Laguna, Los Baños, *Bur. Sci. 6613 Robinson*, mons Maquiling, *Bur. Sci. 6621 Robinson*, *17308 Robinson* et *W. H. Brown*. Mindanao, Subprov. Butuan, *C. M. Weber 1415* (var. **subpruinosa** Vain.). Supra folia *Diospyri*, *Kayeae*, *Arengae*, *Bayabasis Brownii*, cet.

19. **Ch. strigulinum** (Nyl.) Vain. Addit. Lich. Antill. 171. *Platygrapha strigulina* Nyl. Lich. Andam. (1874) 13. *Rotula vulgaris γ. laevis* Müll. Arg. Lich. Beitr. (Fl. 1890) n. 1533.

Thallus tenuis, laevigatus, crebre contextus, flavido- aut cinereo-glaucescens, vulgo continuus, raro partim lacceratus, hypothallo fuscescente crebre contexto tenuissimoque limitatus interruptusve aut vulgo indistincto. Gonidia ad *Phycopeltidem tropicam* (Moeb.) Hansg. pertinentia, cellulis suboblongis ellipsoideisve aut rectangularibus difformibusve, long. 0.010—0.003, lat. 0.006—0.004 mm,

in series radiantes concatenatis, latere in membranam vulgo connatis aut partim lacerata. Hyphae thalli decolores, crass. 0.002 (—0.0015) mm, sat crebre septatae, crebre ramosae et ramoso-connexae. Apothecia leviter emergentia, crass. circ. 0.080 mm, basin versus sensim dilatata, crebra aut sat crebra. Discus orbicularis aut anguloso-rotundatus, diam. 0.4—0.2 mm, nigricans aut rarius fuscescens, nudus, opacus, planus, haud aut raro leviter impressus, verrucae amphitheciali thallinae, thallo concolori aut pallidiori immersus aut margine tenui, integro, thallode aut raro zeorino cinctus. Hypothecium tenue, crass. 0.007—0.010 mm, superne pallidum, inferne dilute olivaceum, substrato impositum, gonidiis destitutum. Parathecium fusconigrum, crass. 0.010—0.020 mm, conniventi-obliquum, strato amphitheciali thallino, gonidia continente obductum. Hymenium 0.060—0.055 mm crassum, jodo fulvescens. Epithecium pallidum aut decoloratum. Paraphyses ramoso-connexae, tubulis tenuissimis. Asci clavati. Sporae 8:nae, polystichae aut distichae, decolores, fusiformes, apicibus obtusis, rectae aut curvatae, 3-septatae, loculis aequalibus aut inaequalibus, long. 0.020—0.018, crass. 0.006—0.003 mm, membrana sat tenui, haud gelatinosa.

Luzon, Subprov. Cagayan, in littore orientali, *McGregor*; Subprov. Laguna, Los Baños, *C. F. Baker 2037*, *Bur. Sci. 9894 Robinson*, mons Maquiling, *Bur. Sci. 17302* pr. p. *W. H. Brown*; Subprov. Tayabas, Kabibihan, *Bur. Sci. 13474 F. W. Foxworthy* et *M. Ramos*; Subprov. Camarines, Adiagnao, *Bur. Sci. 6389 Robinson*. Polillo, *Robinson*. Mindanao, Subprov. Butuan, *C. M. Weber 1410* pr. p. Supra folia *Diospyri*, *Polyalthiae*, *Capparidis*, cet.

20. **Ch. dispersellum** Vain. sp. nov.

Thallus tenuis, laevigatus, crebre contextus, flavido- aut cinereo-glaucescens, dispersus, partim arcolas rotundatas, apothecia subsolitaria continentes formans, hypothallo indistincto aut rarius dilute fuscescente, tenuissimo, crebre contexto, inter arcolas et ad ambitum conspicuo. Gonidia cellulis rectangularibus aut oblongis ellipsoideisve, haud constrictis, in series radiantes aut sat irregulares concatenatis, latere partim connatis, partim fissura disjunctis, latit. 0.004—0.003 mm. Apothecia sat crebra, leviter emergentia, basin versus sensim dilatata. Discus orbicularis aut anguloso-rotundatus, diam. 0.4—

0.15 mm, fusco-nigricans aut raro fuscescens, nudus, opacus, planus, haud aut raro leviter impressus, verrucae amphitheciali thallinae, thallo concolori immersus aut vulgo margine tenui, subintegro, thallode cinctus. Hypothecium tenue, livido-fuscescens aut decoloratum, substrato impositum, gonidiis destitutum. Parathecium fusco-nigrum, conniventi-obliquum, strato amphitheciali, gonidia continente obductum. Hymenium circ. 0.050 mm crassum, jodo vinose rubens Epithecium decoloratum. Asci clavati, membrana fere tota modice incrassata. Sporae 8:nae, distichae aut polystichae, decolores, fusiformes aut oblongae, apicibus obtusis, rectae, 3-septatae, loculis aequalibus aut leviter inaequalibus, long. 0.020—0.016, crass 0.004—0.003 mm, membrana sat tenui, haud gelatinosa. Hyphae thalli ramosae et ramoso-connexae, crass. 0.0015—0.0025 mm, septatae, jodo vinose rubentes. — Gonidia ad *Phycopeltidem tropicam* (Moeb.) Hansg. (Hariot Not. Cephaleur.: Journ. Bot. 1889 p. 8) non pertinent, ad *Heterothallum* (Hariot Not. Trentep. 38) accedentia.

Polillo, *Robinson*. Supra folia arborum.

6. **Cyclographa** Vain. gen. nov.

Thallus crustaceus, uniformis. Gonidia ad *Trentepohliam* pertinentia. Apothecia lecideina aut sublecanoroidea, elevata, basi constricta, hymenium solitarium continentia, orbicularia, disco aperto, rotundato. Excipulum gonidiis destitutum aut gonidia continens, ex hyphis partim haud conglutinatis formatum. Hypothecium obscuratum. Paraphyses ramoso-connexae, apicibus fasciculato-ramosis. Sporae 8:nae, decolores, fusiformes, 3-septatae, loculis aequalibus. A genere *Chiodecton* apotheciis orbicularibus, numquam in pseudostroma confluentibus, et a *Dirina* paraphysibus differt.

1. **C. interposita** Vain. sp. nov.

Thallus modice incrassatus, subcontinuus aut subareolatus aut varie interruptus, sat laevigatus aut demum subverrucoso-rugosus, crebre contextus, cinerascenti-olivaceus aut glaucescenti-cinereus, opacus, hypothallo albido, tenui, sat crebre contexto, byssoideo-radiante, saepe partim limitatus. Gonidia cellulis circ. 0.012—0.016

mm crassis, saepe subanguloso-globosis, raro ellipsoideis, concatenatis, saepe partim demum disjunctis. Apothecia vulgo sat crebra, elevata, basi constricta, orbicularia, raro nonnulla ellipsoidea, sat tenuia, diam. 0.7—0.3, vulgo 0.5 mm. Discus orbicularis, raro ellipsoideus, planus aut demum depresso-convexus, tenuiter aut bene caesio-pruinosus, opacus, laevigatus, margine tenui aut sat tenui, haud prominente, integro aut leviter sublobato-plicato, cinerascente aut sordide albido, pruinoso, opaco. Perithecium fuscescens aut dilute fuscescens pallidumve aut albidum, interdum partim gonidia continens, saepius gonidiis destitutum, ex hyphis formatum vulgo 0.003—0.004 mm crassis, sat leptodermaticis, partim conglutinatis, in superficie perithecii clavatis constipatisque, cavitatibus cellularum vulgo subglobosis, 0.003 (— 0.006) mm latis. Hypothecium fusconigrum, KHO obscure viridi-nigricans. Hymenium 0.060—0.070 mm crassum, jodo passim dilutissime caerulescens, dein lutescens. Epithecium granulosum, impellucidum, albidum pallidumve, KHO dilutissime pallido-lutescens. Paraphyses ramoso-connexae et apice fasciculato-ramulosae, ramis apice clavatis intermixtis. Asci clavati, in apice membrana incrassata. Sporae 8:nae, polystichae, decolores, fusiformes, apicibus obtusis aut attenuatis aut tantum altero apice obtuso, rectae, 3-septatae, loculis aequalibus, long. 0.018—0.028, crass. 0.003—0.005 mm, membrana tenui, haud gelatinosa. — Inter *Bilimbium* et *Chiodecton* est intermedia.

Luzon, Subprov. Rizal, Antipolo, *Bur. Sci. 29545 Ramos* et *Edaño*; Subprov. Laguna, mons Maquiling, *Bur. Sci. 17188 Robinson*; Subprov. Bataan, mons Mariveles, *Merrill 3966, 6259*; Subprov. Sorsogon, Irosin, *Elmer 14877* pr. p. Insula Palabac, *Bur. Sci. 526 L. Mangubat.* Ad corticem arborum.

7. **Arthonia** (Ach.) Vain.

Subg. 1. **Arthothelium** (Mass.) Vain.

1. **A. subsimillima** Nyl., Fl. 1867 p. 196, Syn. Lich. Nov. Cal. (1868) p. 64. *Arthothelium subsimillimum* Müll. Arg. Lich. Beitr. (Fl. 1881) n. 279.

Var. **irosina** Vain.

Thallus tenuis, continuus, laevigatus, albo-virescens, opacus, hypothallo indistincto (hypothallo nigricante, ad thallos alienos perti-

nente, limitatus). Gonidia ad Trentepohliam pertinentia, cellulis 0.006—0.008 mm latis. Apothecia difformia, anguloso-ellipsoidea suborbicularive aut elongata, long. 0.2—1.8, lat. 0.2—0.3 mm, crebra, immersa aut leviter prominentia. Discus haud aut levissime impressus, albus aut pallescenti-albidus, pruinosus, opacus, immarginatus aut tenuissime albo-marginatus. Hypothecium decoloratum. Hymenium jodo caerulescens, dein sordide vinose rubens, asci sporaeque non reagentes. Paraphyses crebre ramoso-connexae, crass. 0.001—0.0005 mm. Asci ellipsoidei, membrana tota incrassata (saltem in apotheciis juvenilibus). Sporae 8:nae, decolores, ellipsoideae, apicibus rotundatis aut rotundato-obtusis, murales, cellulis numerosissimis, seriebus cellularum transversis 10, long. 0.048—0.057, crass. 0.023—0.030 mm, membrana tenui, haud gelatinosa. — *A. subsimillima* Nyl. secundum specim. orig. in herb. Nyl. vix nisi reactione jodetica hymenii a var. *irosina* differt.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14662* pr. p. Ad corticem fruticis n. 14650.

2. **A. thoracifera** Vain. sp. nov.

Thallus tenuissimus, continuus, laevigatus, glaucescenti- vel cinereo-albicans, leviter nitidus aut sat opacus, linea hypothallina nigricante limitatus. Apothecia difformia, angulosa rotundatave aut oblonga, long. 1.5—0.3, lat. 0.8—0.2 mm, dispersa, haud prominentia, thallum haud superantia. Discus niger, nudus, sat opacus, immarginatus. Hypothecium albidum. Hymenium jodo fulvescens aut partim vinose rubens. Epithecium cyanescens aut aeruginosum aut dilute sordideve aeruginosum, strato summo tenui saepe olivaceo-pallido, KHO pulchre violascens. Asci globosi aut pyriformi-subglobosi, long. 0.060—0.074, lat. 0.062—0.050 mm, membrana incrassata, jodo non reagente. Sporae 8:nae, decolores, ovoideo-oblongae, saepe leviter curvatae, apicibus rotundatis, murales, septis transversis 8 aut rarius 9, loculo summo simplice, magno, cellulam circ. 0.016 mm longam formante, cellulis loculorum reliquorum numerosis, long. 0.046—0.050, crass. 0.018—0.022 mm, membrana leviter incrassata, episporio distincto, in KHO (et interdum jam in aqua) gelatinoso-turge-

scente. — Ab *A. bessali* Nyl. (Lich. Andam. 15) apotheciis obscurioribus, intus albidis, sporis decoloribus majoribusque differt, at ei habitu est similis affinisque.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14923, 15080.* Ad corticem arborum n. 14922 et 15074.

Subg. 2. **Euarthonia** (Th. Fr.) Vain.

Gonidia ad Trentepohliam pertinentia, ramis nec latere connatis nec connexis. Sporae septis transversis divisae. Saxicolae et corticolae aut raro foliicolae.

3. **A. complanata** Fée Ess. Crypt. Écorc. 54; Vain. Étud. Lich. Brés. II 154, Fl. Koh Chang Lich. 371; Will. Syn. Arth. 40.

Thallus tenuissimus, sat laevigatus, continuus aut varie interruptus, albido- aut cinereo-glaucescens, leviter nitidus, hypothallo nigricante partim limitatus interruptusve. Apothecia sparsa aut sat approximata, anguloso-rotundata aut difformia, long. 2—0.3, lat. 0.7—0.2 mm, haud prominentia. Discus planus, niger, nudus, opacus, immarginatus. Hypothecium decoloratum aut sordide albicans, KHO non reagens. Hymenium jodo caerulescens. Epithecium olivaceo-fuscescens aut olivaceum, KHO non reagens (aut magis smaragdulo-olivaceum). Asci subglobosi, diam. 0.026—0.032 mm, membrana modice incrassata. Sporae 8:nae, decolores, ovoideo-oblongae, apicibus rotundatis, septis transversis 4 aut 5, loculis ambobus apicalibus (praesertimque loculo apicis crassioris) reliquis circ. triplo longioribus, long. 0.018—0.020, crass. 0.007—0.009 mm, membrana modice incrassata, haud gelatinosa, jodo lutescente aut dilute rubescente.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14951.* Ad corticem arboris n. 14817.

4. **A. opegraphizans** Vain. sp. nov.

Thallus tenuis, laevigatus, continuus, albidus, leviter nitidus, hypothallo indistincto. Apothecia sat crebra, long. 1.2—0.2, lat. 0.4—0.2 mm, elongata flexuosaque et irregulariter ramosa aut anguloso-rotundata difformiave et simplicia, haud prominentia. Discus planus, nigricans, nudus, opacus, immarginatus. Hypothecium decoloratum, jodo partim caerulescens. Parathecium fuligineum. Hy-

menium jodo fulvescens aut partim vinose rubens. Epithecium olivacco-fuscescens, KHO non reagens. Paraphyses ramoso-connexae, apicibus leviter incrassatis, tubulis tenuibus gelatinam percurrentibus. Asci clavati, long. 0.034, crass. 0.012 mm. Sporae 8:nae, decolores, fusiformes, rectae, apicibus obtusis aut altero apice sat acuto, septis transversis 11—7, loculis cylindricis, aequalibus, long. 0.026—0.020, crass. 0.003 mm, membrana haud gelatinosa. — Sporis opegraphinis et parathecio obscurato insignis.

Palawan, prope sinum Taytay, *Merrill 9010* pr. minore parte. Ad *Hoyam.*

5. **A. myriocarpa** Müll. Arg. Lich. Beitr. (Fl. 1889) n. 1488.

Thallus tenuissimus, laevigatus, partim dispersus, sordide albidus, leviter nitidus, hypothallo indistincto. Gonidia parce visa in cellulis substrati, forsan ad Trentepohliam pertinentia, cellulis globosis. Apothecia sat crebra, orbicularia, diam. 0.2—0.1 mm, aut parcissime ellipsoidea oblongave aut difformia confluentiave, haud prominentia. Discus planus, nigricans, nudus, opacus, immarginatus. Hypothecium decoloratum aut sordide coloratum. Hymenium jodo non reagens. Epithecium livido-obscuratum. Asci subglobosi, long. 0.046 0.044, crass. 0.040—0.036 mm, membrana modice incrassata. Sporae 8:nae, decolores aut demum sordide pallidae, oblongae, leviter curvatae, apicibus rotundatis, septis transversis 9—6, loculis cylindricis, mediis reliquis majoribus, long. 0.038, crass. 0.010 mm, membrana haud gelatinosa.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8619* pr. p., *McGregor.* Ad corticem arboris.

6. **A. cocoës** Vain. sp. nov.

Thallus tenuissimus, laevigatus, continuus, sordide albidus, leviter nitidus, hypothallo indistincto. Apothecia sat crebra, elongata aut oblonga aut raro subellipsoidea, long. 2.5—0.2, lat. 0.2—0.1 mm, duarum formarum in eodem thallo, recta, parallela, simplicia, longitudinaliter in directionem fibrarum substrati disposita, aut partim flexuosa, furcata parceve ramosa, irregulariter disposita, haud prominentia. Discus planus, fuscescens aut pallido-fuscescens, nudus, opacus, immarginatus aut margine fuscescente tenuissimo instructus.

Hypothecium docoloratum. Hymenium jodo caerulescens. Epithecium fuscescens, KHO sordide olivacco-smaragdulum. Asci pyriformes vel obovati, long. 0.034, crass. 0.016 mm, membrana apicem versus incrassata. Sporae 8:nae, polystichae, decolores, ovoideo-oblongae, apicibus rotundatis aut apice inferiore obtuso, septis transversis 3—2, cellula summa reliquis duplo longiore, membrana haud gelatinosa, long. 0.019—0.015, crass. 0.006—0.005 mm. — Apotheciis parallelis sat similis est *A. stictoidi* (Desmaz.), quae secundum specimen a Nyl. determinatum etiam in Nova Zelandia collecta est.

Palawan, Taytay, *Merrill 9037* pr. p. Ad truncum *Cocoës nuciferae.*

7. **A. Antillarum** (Fée) Nyl. Fl. 1867 p. 7, Syn. Lich. Nov. Cal. (1868) 61, Sert. Lich. Lab. 9; Müll. Arg. Graph. Fecan. (1887) 55; Vain. Étud. Lich. Brés. II 161.

Thallus tenuis, epiphloeodes, laevigatus, albidus, KHO non reagens, opacus, hypothallo indistincto. Apothecia sat crebra, difformia, saepe anguloso-oblonga ellipsoideave, long. 2—0.5, lat. 1—0.2 mm, haud aut parum prominentia, KHO non reagentia. Discus pallidus, nudus, opacus, planus, immarginatus. Hypothecium albidum. Hymenium jodo persistenter caerulescens. Epithecium stramineo-pallidum. Asci obovoidei, long. 0.030, crass. 0.018—0.016 mm. Sporae 8:nae, polystichae, decolores, ovoideo-oblongae, apicibus obtusis, septis transversis 3, cellulis aequalibus aut mediis paullo longioribus, membrana haud gelatinosa, long. 0.014—0.013, crass. 0.005—0.004 mm.

Palawan, Taytay, *Merrill 9037* pr. p. Ad truncum *Cocoës nuciferae.*

Var. **pallidocinerea** Vain.

Thallus melius evolutus, sat tenuis, epiphloeodes, sat laevigatus, albus, opacus, KHO non reagens, linea hypothallina nigricante interdum limitatus. Apothecia vulgo crebra, saepe contigua aut plura confluentia, anguloso-rotundata aut rarius suboblonga aut difformia, simplicia long. circ. 1.5—0.15, lat. 1—0.15 mm, haud aut parum prominentia, KHO non reagentia. Discus planus, cinereo-pallescens aut cinerascens aut parce etiam pallescens, opacus, subpruinosus aut rarius denudatus. Hypothecium albidum. Hymenium jodo dilute caerulescens, contento ascorum caerulescente. Asci obvoidei, long.

0.026, crass. 0.014 mm. Sporae 8:nae, polystichae, decolores, ovoideo-oblongae, apicibus obtusis aut altero apice rotundato, septis transversis 3, loculis aequalibus, long. 0.015—0.012, crass. 0.005—0.004 mm, membrana haud gelatinosa. — In *A. Antillarum* transire videtur. Etiam *A. perpallens* Nyl. variatio sit hujus specici.

Luzon, Subprov. Laguna, Los Baños, *Baker 541*. Ad corticem *Caricae papayae*.

8. **A. sorsogona** Vain. sp. nov.

Thallus sat tenuis, epiphlocodes, laevigatus, glaucovirescens, opacus, nec KHO nec jodo reagens, linea hypothallina nigricante limitatus. Apothecia sparsa, immersa aut demum leviter prominentia, long. 0.7—0.2, lat. 0.3—0.15 mm, difformia, anguloso-rotundata aut subtriangularia oblongave, simplicia aut subdentata. Discus caesio-pallescens, subpruinosus, opacus, planus, margine albo, saepe leviter prominente discumque superante, sat tenui instructus. Hypothecium album. Epithecium pallescens. Hymenium jodo intense persistenterque caerulescens, asci et sporae jodo haud reagentes. Paraphyses crebre ramoso-connexae, haud gelatinosae, crass. 0.001 mm. Asci clavati aut pyriformes, long. 0.120, crass. 0.070—0.050 mm, membrana apicem versus bene incrassata. Sporae 8:nae, distichae aut polystichae, decolores, oblongae, apicibus obtusis, subcurvatae aut obliquae, septis transversis 11—9, loculis apices versus sensim minoribus, loculis apicalibus parvis, membrana sat tenui, haud gelatinosa, long. 0.061—0.043, crass. 0.022—0.020 mm. — Habitu sat similis est *A. albovirenti* Nyl. (Fl. 1867 p. 196, Syn. Lich. Nov. Cal., 1868 p. 64, Will. Syn. Arth. 6), quae autem sporis majoribus, long. 0.080—0.070, crass. 0.032—0.027 mm, 15—9 septatis, loculis sat aequalibus secundum annotationes Nylanderi ab ea differt.

Luzon, Sorsogon, Irosin, *Elmer 14662* pr. p. Ad corticem fruticis n. 14650, una cum *A. subsimillima* v. *irosina*.

9. **A. picea** Vain. sp. nov.

Thallus tenuis, laevigatus, albidus, sat opacus, KHO non reagens, linea hypothallina fuscescente partim limitatus. Apothecia sparsa, parum prominentia, anguloso-rotundata aut difformia, long.

1 0.2, lat, 0.6—0.2 mm, simplicia, KHO solutionem colore fructibus *Rubi idaei* similem effundentia, immarginata. Discus planus, piceo-fuscescens vel spadiceus, opacus, nudus, latere partim angustissime crocco-rubescente. Hypothecium et hymenium totum rubricoso-fulvescens, jodo non reagens. Asci subgloboso-obovoidei, long. circ. 0.051, lat. 0.040 mm, membrana maxima parte incrassata. Sporae 8:nae, polystichae, decolores aut morbose fuscescentes, ovoideo-oblongae, septis transversis 5, loculo summo reliquis duplo longiore, long. 0.025—0.026, crass. 0.008—0.011 mm, membrana modice incrassata, haud gelatinosa. — *A. spadiceam* et *A. ephelodem* in memoriam revocans.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14923* pr. p. Ad corticem arboris n. 14922.

10. **A. catenatula** Nyl. Lich. Andam. (1874) 14; Will. Syn. Arth. (1890) 12.

Var. **subconfluens** Vain.

Apothecia vulgo magis confluentia, quam in specim. orig. in herb. Nyl. — Thallus tenuis, confluens, levissime inaequalis, impure albidus, opacus, hypothallo fusco limitatus, Apothecia numerosa, thallo immersa, vulgo elongata aut series elongatas formantia, long. —4 mm, lat. 0.080—0.050 mm, subdichotome ramosa, leviter flexuosa curvatave, continua aut partim crebre interrupta, immarginata. Discus fuscescens rufescensve, nudus aut vix distincte pruinosus, thallo leviter impressus. Hymenium jodo caerulescens, membrana ascorum violascens, sporae dilute caerulescentes. Epithecium rubescens rufescensve, KHO non reagens. Hypothecium albidum. Asci globosi aut subovoidei, long. 0.055—0.074, crass. 0.055 mm. Sporae 8:nae, decolores, ovoideo-oblongae, apicibus rotundatis, 5—4-septatae, loculis cylindricis, loculo apicis crassioris 0.020—0.016 mm longo, reliquis multoties longiore, membrana haud gelatinosa, long. 0.042—0.044, crass. 0.014—0.017 mm. Gonidia ad Trentepohliam pertinentia, cellulis difformibus, circ. 0.006 mm crassis, concatenatis, membrana modice incrassata.

Samar, prope flumen Catubig, *Bur. Sci. 24931* pr. p. *G. Edaño.* Supra thallum *Pyrenulae samaranae* Vain. ad corticem arboris.

11. **A. varia** (Ach.) Nyl. Lich. Nov.-Granat. (1863) 496; Vain. Fl. Koh Chang Lich. (1909) 372.

Var. **stenographella** (Nyl.) Vain. *A. stenographella* Nyl. l. c.; Vain. l. c.

Thallus tenuis, sat laevigatus, albidus, parum nitidus, linea hypothallina fuscescente limitatus. Apothecia crebra, haud prominentia, elongata, radiatim aut varie ramosa aut rarius simplicia, long. 1.2—0.5, lat. 0.15—0.1 mm, flexuosa, apicibus vulgo acutis. Discus planus, fuscus aut fusco-nigricans, nudus, opacus, immarginatus. Hypothecium albidum. Hymenium jodo persistenter caerulescens. Epithecium rufescens aut rubricoso-rufescens, KHO violascens. Asci pyriformes, long. circ. 0.036, lat. 0.020 mm, membrana praesertim apicem versus incrassata. Sporae 8:nae, polystichae, decolores, ovoideae aut ovoideo-oblongae, altero apice rotundato, altero obtuso aut apicibus ambobus obtusis, septis transversis 3, loculo apicis crassioris reliquis duplo longiore, membrana tenui, haud gelatinosa, long. 0.014—0.013, crass. 0.0055—0.004 mm. — Habitu sat similis est *A. stenographellae* Nyl., in insula Bonin lectae, in herb. Nyl. n. 5405 b, etiam reactione epithecii ei congruens. In specimine orig. *Opegraphae abnormis* var. *variae* Ach. Lich. Univ. 259, epithecium dilute rubescens, KHO sordide violascens, apothecia elongata aut saepe etiam abbreviata vel ellipsoidea oblongave, vulgo simplicia, raro parce ramosa, thallus tenuis, partim hypothallo fusco limitatus.

Palawan, Taytay, *Merrill 9010* pr. min. part. Ad corticem *Hoyae*.

12. **A. interducta** Nyl. Lich. Nov.-Gran. (1863) 496; Tuck. Lich. Hawai. (1867) 232; Krempelh. Fl. 1876 p. 511; Vain. Étud. Lich. Brés. II 164.

Thallus tenuissimus, sat laevigatus, sordide albicans, opacus, linea hypothallina fusca limitatus. Apothecia crebra, difformia, oblonga et p. p. ellipsoidea vel anguloso-rotundata, long. 1—0.2, lat. 0.25—0.2 (—0.15) mm, simplicia aut parce ramosa, flexuosa curvatave, leviter emergentia, apicibus obtusis aut rarius acutis. Discus planus, fuscus aut fusco-nigricans, nudus, opacus, margine sordide albicante, tenui, latere praerupto, discum haud superante, cinctus. Parathecium rubrum. Hypothecium dilute rubescens. Hymenium

jodo caerulescens. Epithecium rubrum. Partes rubescentes KHO violaceo-rubescentes et solutionem violaceo-rubescentem effundentes. Paraphyses ramoso-connexae. Asci clavati. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, altero apice rotundato, altero obtuso, septis transversis 3, cellula apicis crassioris inferioribus dublo longiore et cellula secunda inferioribus paullo longiore, membrana haud gelatinosa, long. 0.018—0.017, crass. 0.007—0.005 mm.

Luzon, Subprov. Laguna, Los Baños, *Baker 540.* Ad corticem *Fici.*

13. **A. gregaria** (Weig.) Koerb., Syst. Germ. (1855) 291. *A. cinnabarina* (D. C.) Wallr. Comp. Fl. Germ. II 320; Nyl. Syn. Arth. 88 pr. p.

Var. **tumidula** (Ach.) Almqu. Mon. Arth. Scand. (1880) 21; Vain. Étud. Lich. Brés. II 163, Cat. Welw. Afr. Lich. (1901) 448, Addit. Lich. Antill. (1915) 181.

Thallus albidus aut glaucescens. Apothecia in acervulos aggregata confluentiaque aut contigua, anguloso-rotundata, KHO solutionem coccineam effundentia. Discus albido- vel subcaesio-pruinosus, margine cinnabarino. Asci clavati aut pyriformes. Sporae 8:nae, decolores aut vulgo demum sat dilute fuscescentes, ovoideae, apicibus obtusis aut altero apice rotundato, septis transversis 3—4, cellula apicali crassiore reliquis duplo longiore, etiam loculo sequente cellulis inferioribus saepe paullo longiore, membrana haud gelatinosa, long. 0.23—0.020, crass. 0.009—0.008 mm.

Luzon, prope Manilam, *Merrill 8516.* Ad corticem *Strebli asperi.* — Palawan, *Bur. Sci. 15637* pr. p. *Fénix.* Ad corticem arboris.

Var. **subsolitaria** Vain.

Apothecia crebra, solitaria aut parcissime contigua, rotundata aut anguloso-rotundata. Discus albido-pruinosus, margine roseo-rubescente, discum haud superante. — Thallus tenuis, laevigatus, glaucescens, opacus. Parathecium rubescens. Hypothecium dilute roseum aut fere decoloratum. Epithecium rubescens. Sporae 8:nae, decolores, ovoideo-oblongae, altero apice rotundato aut subobtuso, altero obtuso, septis transversis 3 aut 4 aut 5, long. 0.024—0.020, crass. 0.009—0.007 mm, membrana haud gelatinosa, jodo dilute rosea. — *A. cinnabarina* var. *orbicella* Nyl. Lich. Ceyl. (1900) 19, secund.

specim. orig. non est distinguenda a v. *tumidula* Almqu., tantum apotheciis paullo magis rotundatis ab ea differens.

Luzon, Subprov. Laguna, Los Baños, *Baker 538.* Ad corticem *Leeae manillensis.*

Var. **violacea** (Pers.) Will. Syn. Arth. 8. *A. cinnabarina* var. *violacea* Nyl. Syn. Arth. (1856) 89. *Arthonia violacea* Pers. in Gaudich. Voy. Uran. (1826) 187.

Apothecia sat crebra, solitaria, difformia, suboblonga aut anguloso-ellipsoidea rotundatave, long. 1—0.2, lat. 0.3—0.2 mm, simplicia aut parce subramosa dentatave, p. p. flexuosa curvatave, apicibus rotundatis aut obtusis acutisve, leviter emergentia. Discus fuscus, nudus, opacus, planus, margine albido, tenui, saepe discum leviter superante, cinctus. — Thallus tenuis, laevigatus, sordide albicans, sat opacus, hypothallo nigricante limitatus. Parathecium rubescens. Hypothecium dilute rubescens. Epithecium rubrum. Partes rubescentes KHO purpureae. Sporae 8:nae, decolores aut raro demum fuscescentes, ovoideae, apicibus obtusis aut altero apice rotundato, septis transversis 4 aut 5, loculo apicis crassioris reliquis duplo longiore aut etiam loculo secundo et tertio reliquis longiore, long. 0.024—0.021, crass. 0.009—0.006 mm, membrana haud gelatinosa, jodo dilute rosea. — Habitu specimini orig. n. 5546 in herb. Nyl. satis congruens. *A. rubella* (Fée) secundum specim. orig. n. 5409 in herb. Nyl. epithecio rufescente KHO non reagente ab hac varietate differt.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12785 Fénix.* Ad corticem arboris.

Var. **adspersa** (Mont.) Vain. Étud. Lich. Brés. II 163, Cat. Welw. Afr. Lich. 448, Addit. Lich. Antill. 182; Will. Syn. Arth. 8. *A. adspersa* Nyl. Lich. Nov. Zel. (1888) 119.

Apothecia crebra aut in acervulos aggregata confluentiaque aut contigua, difformia, disco caesio-cinereo, pruinoso, margine albido. — Thallus albido-glaucescens cinerascensve. Perithecium rubescens, in margine superne albidum. Hypothecium dilute rubescens. Epithecium rubescens. Sporae 8:nae, decolores, ovoideae, apicibus obtusis aut altero apice rotundato, septis transversis 4, loculo summo

et secundo reliquis longiore, long. 0.021—0.018, crass. 0.008—0.007 mm. — *Ustalia adspersa* Mont. Lich. Guyan. (1842) 278 secund. specim. n. 768 a Leprieur in Cayenne lectum (n. 5542 in herb. Nyl.) spectat ad var. *adspersam*, disco tenuiter pruinoso et margine albido instructam, et ad var. *violaceam* (Pers.), disco nigricante nudo et margine albido cinerascenteve instructam.

Luzon, Subprov. Laguna, Los Baños, *Baker 542*. Ad corticem *Fici hauili*.

Subg. 3. **Arthoniopsis** (Müll. Arg.) Vain.

Gonidia ad Phycopeltidem Hansg. et Heterothallum (Hariot) pertinentia, membranacea aut ramosa ramisque latere plus minusve connatis aut connexis. Sporae septis transversis divisae. Foliicolae.

14. **A. mycoporoides** Vain. sp. nov.

Thallus tenuissimus, laevigatus, cinereo-glaucescens, opacus, maculas usque ad 45 mm latas formans, hypothallo indistincto. Apothecia haud prominentia, substrato imposita, maculas anguloso-rotundatas aut difformes, 1.5—0.3 mm longas, 1.3—0.3 latas formantia, centro saepe desquamata, disco plano, nigricante, nudo, opaco, immarginata. Hymenium jodo fulvescens aut parum rubescens. Epithecium dilute sordideque rufescens. Asci obovoidei aut ellipsoidei, long. 0.040—0.036, lat. 0.029—0.026 mm, membrana leviter incrassata. Sporae 8:nae, polystichae, decolores, oblongae aut ovoideo-oblongae, leviter aut sat bene curvatae, apicibus rotundatis, septis 6—3, loculis apicalibus praesertimque loculo apicis crassioris reliquis longioribus, saepe leviter constrictae, long. 0.036—0.030, crass 0.012—0.008 mm, membrana haud gelatinosa. Gonidia dichotome ramosa, ramis irregularibus, haud regulariter radiantibus, discretis, at sat contiguis, fere membranam formantibus, cellulis long. 0.0035—0.003, lat. 0.003—0.002 mm, in serie simplice dispositis, ad *Heterothallum irregularem* Vain. pertinentia, superne strato tenuissimo, decolore, ex hyphis crebre contextis formato, fere cuticulaeformi obducta. — Affinis est *A. palmulaceae* (Müll. Arg. Lich. Epiph. Spruce., 1892, p. 328).

Polillo, *Robinson*. Supra folium arboris dichotyledoneae.

15. **A. corallifera** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucus aut cinereo-glaucescens, opacus, maculas circ. 20—40 mm latas formans, hyphis 0.0015 mm crassis, linearibus, ramosis, hypothallo indistincto. Gonidia ad Heterothallum irregularem Vain. pertinentia, crebre coralloideo-ramosa, ramis 0.00.2 mm latis, irregularibus, haud regulariter radiantibus, discretis et sat contiguis aut passim lateribus confluentibus, partim subimbricatis, cellulis in serie simplice dispositis. Apothecia haud prominentia, maculas formantia anguloso-rotundatas aut difformes, 1.5—0.3 mm longas latasque, disco plano, sordide nigricante, nudo, opaco, immarginata. Parathecium haud evolutum. Hypothecium dilute livido-fuscescens, ex hyphis irregulariter contextis conglutinatis formatum. Hymenium jodo vinose rubens. Epithecium dilute livido- aut pallido-fuscescens. Paraphyses arcte cohaerentes, ramoso-connexae, crebre septatae, tubulis tenuissimis, membranis gelatinosis. Asci globosi aut obovoideo-globosi aut ellipsoidei, long. 0.042—0.030, lat. 0.038—0.030 mm, membrana modice incrassata. Sporae 8:nae, decolores ant demum submorbose fuscescentes, ovoideo-oblongae aut digitiformes, apicibus rotundatis aut rarius obtusis, saepe leviter curvatae, septis transversis 6—4, loculo summo aut loculis ambobus apicalibus reliquis longioribus, long. 0.036—0.025, crass. 0.009—0.008 mm, membrana tenui, haud gelatinosa.

Luzon, Subprov. Laguna, at viam Siniloan, *Robinson*. Polillo, *Robinson*. Supra folia *Palmarum*.

16. **A. polillensis** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucus, opacus, maculas circ. 25—10 mm latas formans, hypothallo indistincto. Gonidia ad *Heterothallum irregularem* Vain. pertinentia, dichotome et irregulariter ramosa, ramis irregularibus, haud regulariter radiantibus, discretis, at sat contiguis, haud confluentibus, fere membranam formantibus, cellulis circ. 0.003 mm latis, in serie simplice dispositis. Apothecia haud prominentia, substrato imposita, maculas formantia anguloso-rotundatas aut difformes, 0.7—0.3 mm longas latasque, disco plano,

nigricante, nudo, opaco, immarginata. Hymenium jodo vinose rubens. Epithecium lividum aut livido-fuscescens. Hypothecium decoloratum. Asci globosi, diam. 0.036—0.030 mm, aut subpyriformes, long. circ. 0.040, crass. 0.030 mm, in apice membrana saepe bene incrassata. Sporae 8:nae, polystichae, decolores aut demum morbose fuscescentes, ovoideo-oblongae, apicibus rotundatis, saepe leviter curvatae, septis transversis 6—5, loculo apicis crassioris reliquis paullo longiore, haud constrictae, long. 0.040—0.036, crass. 0.011—0.009 mm, membrana haud gelatinosa. — Vix nisi hypothecio decolorato ab *A. corallifera* Vain. differt.

Polillo, *Robinson*. Supra folia *Palmarum*.

17. **A. malayana** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucescens aut olivaceo-glaucescens, sat opacus, maculas circ. 20—10 mm latas formans, hypothallo indistincto. Gonidia ad *Heterothallum rimosum* Vain. pertinentia, radiatim dichotome ramosa, ramis contiguis, maxima parte rima angustissima disjunctis, latere partim connatis, membranam formantibus ambitu denticulatam, cellulis 0.010—0.008 mm longis, 0.007—0.003 mm latis, haud constrictis. Apothecia haud prominentia, 0.045 mm crassa, maculas formantia anguloso-rotundatas aut difformes, 0.8—0.2 mm longas latasque, disco plano, nigricante, nudo, opaco, immarginata, crass. 0.050—0.040 mm. Hypothecium pallido-olivaceum aut livido-fuscescens, gonidiis impositum. Hymenium jodo lutescens. Epithecium olivaceo-fuscescens aut rufescens. Paraphyses flexuosae, parce ramoso-connexae, arcte cohaerentes, tubulis tenuibus, membrana leviter gelatinosa. Asci obovati aut subellipsoidei, long. 0.040—0.025, crass. 0.018 mm, apicem versus membrana incrassata. Sporae 8:nae, polystichae, decolores, ovoideo-oblongae aut fere oblongae, saepe obliquae aut leviter curvulae, altero apice rotundato, altero obtuso aut sat acuto, septis transversis 3, loculis sat aequalibus, long. 0.018—0.014, crass. 0.006—0.0035 mm, membrana haud gelatinosa.

Polillo, *Robinson*. Supra folia *Palmarum*.

18. **A. lividula** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucescens, sat opacus, maculas circ. 10—5 mm latas formans, hypothallo indistincto. Gonidia ad *Heterothallum parenchymaticum* Vain. pertinentia, cellulis etiam latere connatis (aut partim demum hyphis disjunctis), flavescentibus, irregulariter dispositis, aeque longis ac latis, angulosis, diam. 0.008—0.006 mm, et partim parce oblongo-rectangularibus atque series radiantes formantibus (praesertim in partibus junioribus). Apothecia crebra, haud prominentia, anguloso-rotundata aut difformia, 0.3—0.15 mm longa lataque, disco plano, livido-fuscescente, nudo, opaco, immarginata, gonidiis imposita. Hypothecium sordide pallidum. Hymenium jodo vinose rubens, metaplasmate ascorum caerulescente. Epithecium sordide pallidum. Asci globosi, diam. 0.016 mm, aut obovoidei, long. 0.016, lat. 0.012 mm, membrana modice incrassata. Sporae 8:nae, decolores, ovoideo-oblongae, rectae, apicibus rotundatis, septis transversis 3 aut 2 in eodem apothecio, cellulis aequalibus aut cellula summa reliquis paullo longiore, membrana haud gelatinosa, long. 0.014—0.011, crass. 0.005—0.004 mm.

Polillo, *Robinson.* Supra folia *Palmarum.*

19. **A. pauciseptata** Vain. sp. nov.

Thallus tenuissimus, laevigatus, dilute olivaceo-glaucescens, opacus, maculas circ. 10—3 mm latas formans, hypothallo indistincto. Gonidia ad Phycopeltidem tropicam (Moebius) Hansg. pertinentia, membranacea, hepatico-lobata, margine ceterum integro, haud rimulosa, cellulae bene radiantes, diplo aut triplo longiores, quam latae. Apothecia crebra, haud prominentia, anguloso-rotundata aut difformia, 0.6—0.2 mm longa lataque, disco plano, fuscescente aut livido-rufescente, nudo, opaco, immarginata, gonidiis imposita. Hypothecium pallidum aut fuscescenti-pallidum. Hymenium jodo vinose rubens, metaplasmate ascorum caerulescente. Epithecium pallidum. Asci obovoidei aut globosi, long. 0.016, lat. 0.012—0.016 mm, membrana modice incrassata. Sporae 8:nae, decolores, ovoideo-oblongae ovoideaeve, apicibus rotundatis, rectae, septis transversis 2 cellula summa reliquis longiore, membrana haud gelatinosa, long. 0.010—

0.011, crass. 0.005—0.0045 mm. — Secundum descriptionem in Lich. Beitr. n. 305 (Fl. 1881) datam *A. myristicae* Müll. Arg., in Philippinis a Cuming lecta, ab hac specie differre videtur thallo olivaceo-fuscescente et apotheciis 0.25 mm latis fusconigricantibus (*Arthoniopsis* Müll. Arg. Lich. Epiph. 17).

Polillo, *Robinson*. Supra folia *Palmarum*.

20. **A. lividorufa** Vain. sp. nov.

Thallus tenuissimus, laevigatus, dilute olivaceo-glaucescens, opacus, continuus et maculas circ. 10—5 mm latas formans aut dispersus, hypothallo indistincto. Gonidia ad Phycopeltidem tropicam (Moebius) Hansg. pertinentia, saepe olivaceo-flavescentia (supra descr.). Apothecia crebra, haud prominentia, anguloso-rotundata aut difformia, 0.4—0.15 mm longa lataque, disco plano, livido-rufescente, nudo, opaco, immarginata, gonidiis imposita. Hypothecium dilute fuscescens. Hymenium jodo leviter vinose rubens aut haud reagens. Epithecium pallido-fuscescens aut fere decoloratum, ClH rubescens. Asci subglobosi aut ellipsoidei, long. circ. 0.014—0.012, lat. 0.012 mm, membrana apicem versus aut fere tota modice incrassata (0.020 mm). Sporae 8:nae, decolores, ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, rectae, septis transversis 2, membrana haud gelatinosa, long. 0.008, crass. 0.002 mm. — Habitu speciei praecedenti subsimilis et affinis quoque *A. triloculari* Müll. Arg. (Lich. Beitr., Fl. 1881, n. 304), quae sporis paullo majoribus et apotheciis obscurioribus ab ea differt.

Polillo, *Robinson*. Supra folia *Palmarum*.

21. **A. phaeosporella** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucescens, sat opacus, maculas 25—2 mm latas formans, continuus aut dispersus, hypothallo indistincto. Gonidia ad Heterothallum rimosum Vain. pertinentia, numerosissima, membranam apice denticulatam formantia, seriebus cellularum radiantibus, rima angusta partim disjunctis. Apothecia dispersa, haud prominentia, angulosa difformiaque, long. 1.3—0.3, lat. 0.7—0.3 mm, disco plano, nigro aut rarius livido-nigricante aut raro fuscescente, nudo, opaco, immarginata, gonidiis vulgo imposita.

Hypothecium dilute fuscescens aut raro pallescens. Hymenium jodo non reagens. Epithecium fuscescens aut olivaceo- vel pallido-fuscescens. Asci globosi aut obovoidei aut ellipsoidei, long. 0.026—0.014, lat. 0.015—0.014 mm, praesertim apicem versus membrana sat bene incrassata. Sporae 8:nae, fuscescentes, primum decolores, ovoideo-oblongae aut fere oblongae, apicibus rotundatis aut altero apice subobtuso, levissime curvatae aut obliquae, septis transversis 2 (aut rarissime fortuitoque 3), loculis sat aequalibus aut loculo summo paullo longiore, membrana haud gelatinosa, long. 0.016—0.012, crass. 0.005—0.004 mm. — Proxima *A. commutatae* Stirt. (Lich. Leav. Amaz. 7, Müll. Arg. Lich. Epiph. 17), quae apotheciis fuscis et reactione hymenii ab ea differt.

Polillo, *Robinson*. Ad folia arborum.

22. **A. bambusicola** Vain. sp. nov.

Thallus tenuissimus, laevigatus, dilute cinereo-glaucescens, opacus, maculas circ. 30—5 mm latas formans, continuus, hypothallo indistincto. Gonidia ad Phycopeltidem tropicam (Moeb.) pertinentia, cellulis regulariter radiantibus, oblongo-rectangularibus, connatis, 0.008—0.012 mm longis, 0.004 mm latis. Apothecia dispersa, vix distincte prominentia, anguloso-rotundata difformiave, long. 1—0.5, lat. 1—0.3 mm, disco plano, fusco aut fusco-nigricante, nudo, opaco, immarginata. Hypothecium decoloratum, ut videtur. Epithecium livido-fuscescens. Asci ovoidei, long. 0.022—0.024, crass. 0.014 mm, aut fere subglobosi, apicem versus membrana incrassata, jodo dilute violascente. Sporae rufescentes, ovoideo-oblongae, altero apice rotundato, altero obtuso, 2-septatae, raro uniseptatae, cellula apicis crassioris paullo longiore, long. 0.012—0.014, crass. 0.004—0.005 mm, membrana haud gelatinosa.

Luzon, Subprov. Bulacan, Angat, *Bur. Sci. 21861 M. Ramos.* Ad truncos *Bambusarum*.

23. **A. Robinsonii** Vain. sp. nov.

Thallus tenuissimus, laevigatus, sublivaceo-pallescens aut pallido-glaucescens, sat opacus, vulgo varie interruptus dispersusve aut maculas circ. 20—10 mm latas formans, sat facile desquamescens,

hypothallo indistincto. Gonidia ad Phycopeltidem tropicam (Moebius) Hansg. pertinentia, membranacea, hepatico-lobata, margine integro, cellulis oblongo-rectangularibus, series radiantes formantibus, latere connatis, rima haud disjunctis. Apothecia sat crebra, haud prominentia, angulosa difformiaque, 0.4—0.2 mm longa lataque, disco plano, livido-rufescente, nudo, opaco, immarginata, gonidiis imposita. Hypothecium pallidum. Hymenium pallidum, jodo partim dilute caerulescens, ceterum haud reagens, metaplasmate ascorum leviter caerulescente. Asci globosi, diam. 0.018—0.015 mm, membrana modice incrassata. Sporae 8:nae, decolores, ovoideae, apicibus rotundatis aut apice inferiore obtuso, rectae, uniseptatae, loculis aequelongis aut loculo summo paullo longiore, membrana haud gelatinosa, long. 0.011—0.007, crass. 0.005—0.003 mm. — Habitu similis est A. pauciseptatae et L. lividorufae.

Polillo, *Robinson*. Supra folia *Palmarum*.

24. **A. falcata** Vain. sp. nov.

Thallus tenuissimus, laevigatus, glaucescens aut subolivaceo-glaucescens, sat opacus, maculas circ. 25—5 mm latas formans, sat continuus, hypothallo indistincto. Gonidia ad Heterothallum rimosum Vain. pertinentia, membranam margine denticulatam formantia, seriebus cellularum radiantibus, praesertim apicem versus connatis, ceterum partim rima disjunctis. Apothecia sparsa, haud prominentia, orbicularia aut leviter irregularia difformiave, long. 1—0.5, lat. 0.6—0.4 mm, disco plano, nigricante, nudo, opaco, immarginata. Hypothecium pallidum. Hymenium jodo fulvescens. Epithecium fuscum. Paraphyses increbre ramoso-connexae, sat crebre septatae, tubulis tenuissimis, gelatinam haud abundantem percurrentibus. Asci globosi, diam. 0.016 mm aut obovoidei, long. 0.030, lat. 0.016 mm. Sporae 8:nae, decolores aut rarius partim demum sat dilute fuscescentes, ovoideo-oblongae, altero apice rotundato aut obtuso, altero sat acuto, saepe leviter curvatae aut obliquae, uniseptatae, septo in medio sporae aut loculo angustiore paullo longiore, haud constrictae, long. 0.013—0.011, crass. 0.003 mm, membrana haud gelatinosa. — Proxima est *A. lividofuscae* (Müll. Arg. Lich. Beitr. n. 306), in Borneo lectae,

quae apotheciis et sporis paullo minoribus et lamina apothecii olivaceo-virente ab ea differt.

Polillo, *Robinson*. Supra folia arboris dicotyledoneae.

25. **A. reticulifera** Vain. sp. nov.

Thallus tenuissimus, laevigatus, dilute olivaceus, opacus, maculas circ. 17—4 mm latas formans, continuus, hypothallo indistincto. Gonidia ad *Heterothallum reticulatum* Vain. pertinentia, thallo ramoso, ramis e serie simplice cellularum 0.011—0.010 mm longarum et 0.005—0.0035 mm latarum formatis, apicem versus bene discretis rectisque, basin versus partim contiguis et rima disjunctis, partim reticulato-connexis. Etiam *Phycopeltis tropica* (Moebius) Hansg. in thallo hujus lichenis (verisimiliter tantum fortuito) obvenit. Apothecia sparsa, haud prominentia, orbicularia aut difformia, diam. circ. 0.5—0.3 mm, disco plano, nigricante, nudo, opaco, immarginata, gonidiis imposita. Hypothecium dilute fuscescens. Hymenium jodo non reagens. Epithecium livido-fuscescens, ClH dilute rubescens. Asci globosi, diam. circ. 0.010 mm, membrana modice incrassata. Sporae 8:nae, decolores, ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, rectae, uniseptatae, septo in medio sporae, haud constrictae, long. circ. 0.012, crass. 0.003 mm, membrana haud gelatinosa. — *A. falcatae* et *A. lividofuscae* est proxima.

Polillo, *Robinson*. Supra folia arboris dicotyledoneae.

Subg. 4. **Allarthonia** Nyl.

Gonidia palmellacea, globosa. Sporae septis transversis divisae.

26. **A. MacGregorii** Vain. sp. nov.

Thallus tenuis, verruculis hemisphaericis minutissimis sat crebre inspersus, stramineus, continuus, maculas 18—4 mm latas formans, hypothallo indistincto. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0,007—0,005 mm, tantum simplicia visa. Apothecia sat crebra, haud prominentia, orbicularia aut anguloso-rotundata aut parce etiam difformia, diam. 035—0.2 mm, immarginata, disco plano, lividotestaceo, nudo, opaco. Hypothecium olivaceo-pallidum. Hymenium jodo non reagens. Epithecium olivaceo-pallidum. Para-

physes ramoso-connexae, crebre septatae, tubulis tenuissimis, membranis gelatinosis, modice incrassatis. Asci obovoidei aut ellipsoidei, long. 0.020, crass. 0.014 mm, aut globosi et diam. 0.016—0.014 mm, membrana apicem versus incrassata. Sporae 8:nae, decolores, fusiformi- aut rarius ovoideo-oblongae, saepe leviter curvatae, apicibus obtusis aut rotundatis, septis transversis 3, loculis aequalibus, long. 0.016—0.010, crass. 0.005—0.003 mm, membrana haud gelatinosa.

Polillo, *Bur. Sci. 10807, McGregor.* Supra folia *Palmae.*

27. **A. atropunctata** Vain. sp. nov.

Thallus tenuis, maculas circ. 5 mm latas formans, crebre verruculoso-inaequalis, verruculis valde depressis, stramineus, opacus, hypothallo indistincto. Gonidia ad Pleurococcum pertinentia, globosa, diam. 0.010—0.005 mm, simplicia aut raro 4-cellulosa, membrana modice incrassata. Apothecia sat crebra, haud prominentia, anguloso-rotundata, diam. 0.3—0.2 mm, immarginata, disco plano, atro, nudo, opaco. Hypothecium decoloratum. Epithecium fuscum. Asci long. 0.014, lat. 0.010 mm, aut globosi et diam. 0.010 mm, membrana apicem versus bene incrassata, jodo dilutissime violascentes, ceterum hymenium jodo parum reagens (haud caerulescens), at addito ClH vinose rubens. Sporae 8:nae aut 4:nae, decolores, ovoideae, apicibus rotundatis, 1-septatae, septo fere in medio sporae, haud aut leviter constrictae, long. 0.008—0.007, crass. 0.003—0.002 mm, membrana haud gelatinosa.

Luzon, Subprov. Tayabas, prope viam Siniloan, *Robinson.* Supra folia *Palmae.*

28. **A. subinvisibilis** Vain. sp. nov.

Thallus tenuissimus, maculas circ. 20—2 mm latas formans, crebre verruculoso-inaequalis, verruculis minutissimis, glaucus, opacus, hypothallo indistincto. Gonidia pleurococcoidea, globosa, diam. 0.010—0.005 mm, tantum simplicia visa. Apothecia sat crebra, leviter prominentia, orbicularia, diam. 0.2—0.15 mm, immarginata, disco plano, atro, nudo, opaco. Hypothecium decoloratum. Epithecium livido-fuscescens. Paraphyses parcae, ramoso-connexae, crass. 0.001 mm. Asci pyriformes, long. circ. 0.028, crass. 0.008 mm, mem-

brana sat crassa (praesertim apicem versus), jodo persistenter caerulescens. Sporae 8:nae, distichae, decolores, ovoideo-oblongae aut ellipsoideae, apicibus rotundatis, septis transversis 3, long. 0.003, crass. 0.0015 mm, membrana haud gelatinosa.

Luzon, Subprov. Laguna, Los Baños, *Robinson*. Supra folia *Semecarpi cuneiformis*.

29. **A. atropallida** Vain. sp. nov.

Thallus hypophloeodes, macula indicatus pallida aut partim sordide albicante, leviter nitida, usque ad 40 mm lata, hypothallo indistincto. Gonidia globosa, diam. 0.007—0.005 mm, flava, membrana tenui, tantum simplicia visa. Apothecia sparsa, haud aut demum medio leviter prominentia, anguloso-rotundata aut partim difformia, diam. 0.8—0.3 mm, immarginata, disco plano aut rarius demum leviter depresso-convexo, nigro, nudo, opaco. Hypothecium decoloratum. Epithecium olivaceo-fuscescens. Hymenium jodo lutescens, metaplasmate ascorum rubescente. Asci obovoidei, long. 0.021—0.017, crass. 0.008—0.007 mm. Sporae 8:nae, decolores, ovoideo-oblongae, apicibus rotundatis, vulgo rectae, 1-septatae, loculis aequalibus aut cellula superiore breviore, long. 0.021—0.017, crass. 0.008—0.007 mm, membrana leviter subgelatinoso-incrassata, jodo non reagente. — Facie externa A. dispersam in memoriam revocans.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14544* pr. p. Ad corticem arboris n. 14542.

7. **Melaspilea** Nyl.

Sect. 1. **Hemigrapha** Müll. Arg.

1. **M. manca** Vain. sp. nov.

Thallus tenuissimus, laevigatus, albidus aut albido-pallescens, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, oblonga aut parcius ellipsoidea rotundatave, long. 0.9—0.2, lat. 0.2—0.15 mm, leviter prominentia, apicibus obtusis aut rotundatis, basi leviter dilatata aut lateribus sat abruptis, recta aut rarius leviter flexuosa curvatave, simplicia, nigra, nuda aut subnuda, labiis conniventibus, clausis aut anguste hiantibus, tenuibus, laevigatis, disco inconspicuo aut angusto, nigro, nudo. Perithecium fuscofuligineum, sat tenue, basi deficiens. Hymenium jodo dilutissime caerulescens.

Paraphyses haud visae. Asci clavati, long. circ. 0.056, lat. 0.022—0.020 mm, in apice membrana incrassata. Sporae 8:nae, distichae, ovoideae, 1-septatae (aut parce 2-septatae), septo in medio sporae, medio leviter aut sat bene constrictae, apicibus rotundatis, primum decolores, demum sat dilute fuscescentes, long. 0.020—0.026, crass. 0.009—0.012 mm, membrana sat tenui, haud gelatinosa. Thallus endophloeodes, hyphis parcis, 0.002—0.0015 mm crassis, septatis, leptodermaticis, decoloribus aut dilute olivaceis. Gonidia in cellulis substrati inclusa, parca, cellulis anguloso-globosis, diam. 0.010—0.005 mm, parce concatenatis, ad Trentepohliam pertinentia. — Habitu similis *M. gemellae* (Eschw.), n. 4867 in herb. Nyl.

Luzon, Subprov. Nueva Vizcaya, prope Dupax, *Bur. Sci. 14311, 14309, McGregor.* Ad corticem arborum.

2. **M. pongamiae** Vain. sp. nov.

Thallus sat tenuis, leviter subverruculoso-inaequalis, pallido- aut albido-glaucescens, leviter nitidus, hypothallo nullo distincto. Apothecia sat crebra, difformia, ellipsoidea aut suborbicularia aut parce etiam oblonga, long. 0.2—0.6, lat. 0.15—0.4 mm, apicibus obtusis aut rotundatis, leviter prominentia, vulgo recta, basi leviter dilatata aut lateribus sat abruptis, nuda, labiis conniventibus, anguste hiantibus aut clausis, modice incrassatis, nigra, simplicia, interdum 2 aut nonnulla confluentia, disco inconspicuo aut nigro, nudo, angusto. Perithecium fuligineum, dimidiatum, basi deficiens. Hymenium jodo lutescens. Paraphyses laxe cohaerentes, crass. 0.0015 mm, simplices, haud gelatinosae. Asci subcylindrico-ventricosi, long. 0.040, crass. 0.013 mm, in apice membrana incrassata. Sporae 8:nae, distichae, decolores, ovoideo-oblongae, apicibus rotundatis, 1-septatae, septo in medio sporae, parum constrictae, long. 0.013—0.014, crass. 0.004—0.005 mm, membrana haud gelatinosa. Gonidia cellulis anguloso-globosis, concatenatis, 0.009 mm latis, ad Trentepohliam pertinentia. — Habitu subsimilis *M. opegraphoidi* Nyl. (Prodr. Lich. Nov.-Gran. p. 487) in coll. Wrightii n. 101 g (n. 4864 in herb. Nyl.), at apotheciis brevioribus a speciminibus novo-granatensibus differens.

Palawan, Taytay, *Merrill 9062.* Ad corticem *Pongamiae mitis.*

Melaspileella (Karst.) Vain.

Celidium Tul. sect. III. *Melaspileella* Karst. Rev. Ascom. Fenn. (Act. Soc. F. et Fl. Fenn. II 6, 1885) p. 163. *Mycomelaspilea* Reinke Abh. Flecht. III—IV (Pringsh. Jahrb. XXVIII, 1895) p. 146.

Sicut *Melaspilea* Nyl., at mycelio gonidiis destituto aut parasita in thallo lichenum. — *Micrographa* Müll. Arg., Lich. Beitr. (Fl. 1890) n. 1541, forsan huc pertinet, at gonidiis »phyllactidialibus» descripta est.

1. **M. microspilota** (Nyl.) Vain. *Melaspilea microspilota* Nyl. Syn. Cal. (1868) p. 68.

Thallus inconspicuus. Apothecia sat crebra, rotundata aut anguloso-rotundata aut raro difformia, punctiformia, lat. 0.1—0.15 mm, disco plano aut leviter convexo, nigro, nudo, opaco, margine inconspicuo. Parathecium tenue, superne fuligineum. Hypothecium decoloratum (fuscum, observante Nyl.). Epithecium fuscescens. Paraphyses simplices, crass. 0.0015 mm, increbre septatae, parcae. Asci clavati, in apice membrana modice incrassata. Sporae 8:nae, distichae, decolores et demum fumoso-obscuratae aut dilute fuscescentes, ovoideae, apicibus rotundatis, 1-septatae, septo in medio sporae, haud aut bene constrictae, jodo non reagentes, long. 0.011—0.014, crass. 0.005—0.007 mm. — Supra thallum caesio-albicantem, KHO non reagentem, opacam *Graphidis* parasita, ad fungos pertinet.

Luzon, prope Manilam, *Merrill 8518*. Ad corticem *Hibisci tiliacei* L.

2. **M. pandani** Vain. sp. nov.

Mycelium maculas formans fusco-nigricantes fuscasve, latas continuasque aut varie interruptas dispersasque, opacas, tenue, epiphloeodes, ex hyphis constans 0.003 (0.0025—0.004) mm crassis, ramosis, increbre septatis, sat leptodermaticis aut membranis modice incrassatis, fuscis, verrucas abundanter efferens globulosas, diam. circ. 0.020—0.030 millim., parenchymatice cellulosas, forsan pycnoconidangia imperfecta formantes, gonidiis destitutum. Apothecia sparsa aut partim aggregata, prominentia, long. 1.5—0.3, lat. 0.15 mm, basin versus sensim dilatata, nigricantia, opaca, irregulariter disposita, labiis conniventibus, clausis, disco inconspicuo. Perithecium fuligineum, dimidiatum. Hymenium jodo partim dilute cae-

rulescens. Epithecium fuscescens. Paraphyses simplices, arcte cohaerentes, tubulis tenuibus, membranis gelatinosis. Asci late clavati, long. 0.040—0.045, crass. 0.025 mm, apicem versus membrana modice incrassata. Sporae 8:nae, distichae, fuscae aut fumoso-fuscescentes, ellipsoideae, apicibus subobtusis aut rotundatis, 1-septatae, septo in medio sporae, medio vulgo leviter constrictae, long. 0.018—0.022, crass. 0.009—0.010 mm, membrana modice incrassata, haud gelatinosa. Ad fungos pertinet. — *Micrographa phaeoplaca* Müll. Arg. (l. c. et Lich. Parag., 1888, p. 115) apotheciis brevioribus et sporis tenuioribus inaequaliterque septatis ab hac specie differt.

Polillo, *Robinson*. Supra folia *Pandani*. Etiam in Koh Chang ab *Johs. Schmidt* collecta est.

C. CONIOCARPEAE

Trib. 1. SPHAEROPHOREAE

1. **Sphaerophorus** Pers.

1. **Sph. compressus** (Ach.) Koerb. Syst. Lich. Germ. (1855) 52; Vain. Étud. Lich. Brés. II (1890) 169.

Luzon, Subprov. Lepanto, mons Data, 2250 m s. m., *Merrill 4951*; Subprov. Benguet, mons Tonglon, 2000 m s. m, *Merrill 4895*; mons Pulog, *Merrill 6425*; Pauai, alt. circ. 2100 m, *Bur. Sci. 8639 McGregor*. Ad corticem et muscos putridos in truncis *Pini* aliarumque arborum. In monte Pulog fert.

Var. **subaustralis** Vain.

Thallus magis compressus et subtus plus minusve lacunoso-rugosus.

Luzon, Subprov. Ifugao, mons Polis, *Bur. Sci. 20357 McGregor*; Subprov. Benguet, mons Tonglon, *Bur. Sci. 5481 Ramos*, *Merrill 7931*; Subprov. Rizal, *Bur. Sci. 13631 Ramos*. Supra muscos putridos in truncis *Pini*, cet. Ster.

2. **Sph. madagascareus** (Nyl.) Vain. Hedw. 1898 p. 36. *Sphaerophoron madagascareum* Nyl. in Cromb. Lich. Madagasc. (1877) p. 409; Stizenb. Lich. Afr. (1890) p. 21. *Pleurocybe Hildebrandtii* Müll. Arg. Lich. Beitr. (Fl. 1884) n. 804.

Luzon, Subprov. Benguet, *Bur. Sci. 5881 Ramos*. Panay, Subprov. Antique, *Bur. Sci. 32614 McGregor*. Supra muscos vetustos ad truncos arborum. Ster.

3. **Sph. diplotypus** Vain. in Hedw. 1898 p. 36.

Omnino similis speciminibus in Madagascaria lectis. Sporae 8:nae, monostichae, fuscescentes, globosae.

Mindoro, mons Halcon, *Merrill 6202*. In ramis siccis arboris.

Trib. 2. CALICIEAE

1. **Calicium** Pers.

1. **C. bryophilum** Vain. sp. nov.

Thallus crustaceus, tenuis, continuus aut dispersus, laevigatus aut leviter verruculoso-inaequalis, albido-glaucescens, hypothallo indistincto. Gonidia flavescentia, subglobosa, long. 0.010—0.006, lat. 0.007—0.005 mm, aut globosa et diam. 0.010—0.006 mm, tantum simplicia visa, membrana tenuissima. Apothecia stipitata, altitudine 1.5—1 mm, capitulo turbinato aut subgloboso-turbinato, lat. circ. 0.220, alt. 0.180 mm, toto nigro. Stipes niger, crass. circ. 0.090 mm. Massa sporalis nigra, haud protrusa. Sporae oblongae aut ovoideo-oblongae aut rarius ellipsoideae, apicibus rotundato-obtusis, nigricantes aut fumoso-fuscescentes, 1-septatae, leviter aut haud constrictae, long. 0.010—0.007, crass. 0.004—0.0035 mm, membrana tenui.

Mindanao, Subprov. Misamis, mons Malindang, *E. A. Mearns, W. Hutchinson 4786* pr. p. Una cum *Anaptychia leucomelaena* supra caules musci.

II. PYRENOLICHENES

Trib. 1. ASPIDOTHELIEAE

1. **Aspidopyrenium** Vain.

1. **A. insigne** Vain. Étud. Lich. Brés. II (1890) 190; Zahlbr. Ergeb. Exp. Südbras. (1909) 2. *Lecania* (*Secoligella*) *fugiens* Müll. Arg. Lich. Epiphyll. (1890) 3.

Var. **fugiens** (Müll. Arg.) Vain.

Thallus tenuis, continuus aut partim subdispersus, laevigatus, albido-glaucescens. Gonidia pleurococcoidea, globosa, diam. 0.007—0.005 mm, tantum simplicia visa. Perithecium parte superiore in scutellum orbiculare dilatatum, albidum. Paraphyses crass. 0.001 mm,

ramoso-connexae, gelatinam percurrentes. Asci fusiformi-oblongae, long. 0.130—0.120, crass. 0.034—0.030 mm, membrana tenui aut leviter incrassata. Sporae 8:nae, polystichae, decolores, fusiformes, rectae aut leviter curvatae, apicibus obtusis, septis transversis 21—18, loculis apices versus sensim abbreviatis, apicalibus circ. 0.002 mm, mediis 0.006 mm longis. Hypothallus indistinctus.

Polillo, *Robinson.* Supra folia *Palmae.*

Var. **dispersa** Vain.

Thallus dispersus, areolis difformibus, circ. 2—0.5 mm latis, hypothallo indistincto, ceterum var. *fugienti* similis et in eam transiens.

Polillo, *Robinson.* Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson.* Supra folia arborum variarum.

2. **A. verruculosum** Vain. sp. nov.

Thallus tenuis, continuus, verruculis hemisphaericis, minutis, circ. 0.045—0.070 mm latis sat crebre inspersus, glaucescens, opacus, hypothallo indistincto. Gonidia pleurococcoidea, globosa, diam. 0.008—0.006 mm, simplicia aut rarius 2—4-cellulosa. Perithecium scutello medio albido. Ceterum haec species habitu est *A. insigni* similis.

Polillo, *Robinson.* Supra folium coriaceum arboris dicotyledoneae tantum 3 apothecia collecta, quare ea microscopio non examinavi.

Trib. 2. TRICHOTHELIEAE

1. **Trichothelium** Müll. Arg.

1. **Tr. philippinum** Vain. sp. nov.

Thallus tenuissimus, continuus aut subdispersus, laevigatus, cinereo-glaucescens, leviter nitidus, hypothallo indistincto. Apothecia sparsa, verrucas formantia subhemisphaericas, 0.2 mm latas, nigricantes, opacas, parte superiore in scutellum membranaceum profunde radiato-dentatum 0.7—0.8 mm latum dilatatas, radiis circ. 0.1—0.32 mm longis, e basi latiore sensim attenuatis, nonnullis etiam totis angustis, horizontaliter dispositis, nigricantibus aut apice pallidis, ex hyphis parallalis, 0.002—0.0018 mm crassis, leptodermaticis, conglu-

tinatis formatis. Perithecium ceterum subhemisphaericum, fuligineum, nudum, dimidiatum, margine ostiolari haud prominente, ostiolo circ. 0.022 mm lato. Nucleus albidus, jodo non reagens. Paraphyses crass. 0.001 mm, sat crebre septatae, dichotome aut parce etiam repetito-ramosae. Sporae 8:nae, polystichae, decolores, fusiformi-aciculares aut vermiculares, vulgo rectae, apicibus sat acutis aut sat obtusis, parte superiore crassiore, apicem inferiorem versus sensim attenuatae, septis transversis 12—16, loculis sat aequalibus, cylindricis, long. 0.020—0.082, crass. 0.0035—0.0045 mm, membrana tenui, haud gelatinosa. Gonidia ad Phycopeltidem tropicam (Moeb.) Hansg. pertinentia, membranacea, ambitu integro, cellulis rectangularibus, long. 0.010—0.014, crass. 0.005 mm, in series radiantes dispositis, lateribus et apicibus connatis. Thallus hyphis decoloribus, 0.0015 mm crassis, leptodermaticis, septatis, ramosis. — Saltem sporis a *Tr. epiphyllo* Müll. Arg. (Pyr. Cub., 1885, p. 418, Lich. Beitr. n. 923) differt.

Polillo, *Robinson*. Supra folia coriacea arborum.

2. **Tr. alboatrum** Vain. sp. nov.

Thallus tenuissimus, dispersus, laevigatus, albido-glaucescens, hypothallo indistincto, supra folia et supra thallum aliorum lichenum crescens. Apothecia sparsa, verrucas formantia hemisphaericas, atras, opacas, latere radiatas, radiis 4—6, albis, long. 0.200—0.290, basin versus lat. 0.020—0.024 mm, e basi latiore apicem versus sensim attenuatis, horizontaliter dispositis, ex hyphis 0.002—0.003 mm crassis, leptodermaticis, conglutinatis formatis. Perithecium subhemisphaericum, lat. circ. 0.190 mm, in lamina tenui fuscofuligineum, margine ostiolari haud prominente, ostiolo rotundato, 0.020 mm lato. Nucleus albidus, parcissime resinoso-guttulosus, jodo non reagens. Paraphyses sat parce evolutae, crass. 0.0005 mm, simplices. Asci fusiformi-ventricosi, long. circ. 0.090, crass. 0.010—0.012 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, fusiformes, rectae, apicibus obtusis aut acutis, 3-septatae, loculis cylindricis, fere aeque longis, long. 0.022—0.026, crass. 0.003—0.005 mm, membrana tenui, haud gelatinosa. Gonidia dichotome

ramosa, ramis discretis, e serie simplice cellularum formatis, cellulis long. 0.006, crass. 0.002 mm (tantum chlorophyllo destitutis visis), ad Heterothallum pertinentia.

Polillo, *Robinson*. Supra folia coriacea arboris.

3. **Tr. Robinsonii** Vain. sp. nov.

Tantum unum apothecium lectum et eam ob causam microscopio haud examinatum. A *Tr. alboatro* differt perithecio pallido, circ. 0.25 mm lato, scutello radiato 1 mm lato, fulvescenti-pallido, radiis 6, partim apice albidis, long. 0.5—0.3 mm, basin versus leviter dilatatis, horizontaliter dispositis. In thallo cinerascente, tenuissimo, disperso, minute areolato, jam mortuo et forsan non alieno crescit. His notis facile dignota, quamquam defecte descripta.

Polillo, *Robinson*. Supra folium annuum mortuum arboris una cum *Tricharia melanothrice* (Fée).

Trib. 3. SPHAERIEAE

Subtrib. 1. **Dictyosporae.**

1. **Polyblastia** (Mass.) Lönnr.

1. **P. manilensis** Vain. sp. nov.

Thallus sat tenuis, continuus aut varie interruptus aut rimuloso-areolatus, laevigatus, sordide albidus, sat opacus, KHO non reagens, hypothallo indistincto. Apothecia verrucas formantia 0.4—0.3 mm latas, parum elevatas, depresse conoideo-hemisphaericas, basi sensim in thallum abeuntes, latere thallo obductas, vertice vel majore parte nigricantes. Perithecium rubricoso-fuscofuligineum. Paraphyses in gelatinam diffluxae. Asci late clavati, membrana sat tenui. Sporae 8:nae, pallidae, ellipsoideae aut oblongae vel ovoideo-oblongae, apicibus rotundatis aut altero apice obtuso, murales, cellulis sat numerosis, cubicis, seriebus cellularum transversis 8, long. 0.020—0.028, crass. 0.008—0.011 mm, membrana haud gelatinosa. Nucleus jodo partim dilute caerulescens. Basidia e periphysibus labii apothecii evoluta, long. 0.020—0.015 mm, crass. 0.0015 mm, simplicia, septata, apicibus stylosporas efferetibus. Stylosporae duarum formarum in eodem perithecio apothecii: 1:o. oblongae, apicibus rotundatis, decolores, 1-septatae, long. 0.009—

0.005, crass. 0.0018 mm, 2:o. ellipsoideae aut oblongae, apicibus rotundatis, simplices, decolores, long. 0.005—0.003, crass. 0.0015 mm. Gonidia pleurococcoidea, globosa, diam. 0.008—0.004 mm, simplicia et 2- vel 4-cellulosa. — *Thelenellam* (*Microglaenam*) *brasiliensem* (Müll. Arg.) facie externa in memoriam revocans et affinis *Polyblastiae foranae* (Anzi) Koerb. (Th. Fr. Polybl. Scand. p. 23), cujus nucleus jodo vinose rubens.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17235 Robinson.* In rupe, alt. 40 m.

2. **Phylloblastia** Vain. nov. gen.

Thallus crustaceus. Gonidia phycopeltidea, membranacea. Apothecia simplicia, recta, elevata. Perithecium nudum. Paraphyses in gelatinam diffluxae. Sporae decolores, aciculari-elongatae, submurales. Foliicola. Forsan rectius est subg. *Polyblastiae.*

1. **Ph. dolichospora** Vain. sp. nov.

Thallus tenuissimus, continuus aut dispersus, laevigatus, cinereo-glaucescens, opacus, hypothallo indistincto. Gonidia ad *Phycopeltiden irregularem* Vain. pertinentia, thallo membranaceo, parenchymatico, cellulis irregulariter et partim in seriebus subradiantibus dispositis, anguloso-subglobosis, diam. 0.008—0.006 mm, flavescentibus, margine thalli integro. Apothecia elevata, subglobosa, lat. 0.4 mm, fusca, thallo haud obducta, leviter nitida, basi leviter constricta. Perithecium integrum. Nucleus decoloratus, basi jodo dilutissime subcaerulescens. Paraphyses tubulo 0.001—0.0015 mm crasso, membrana gelatinoso-incrassata. Asci clavato-fusiformes, long. circ. 0.180, crass. 0.025 mm. Sporae 8:nae, polystichae, leviter spiraliter contortae, aciculari-elongatae, apicem superiorem versus leviter et apicem inferiorem versus magis attenuatae, apice inferiore obtuso aut apicibus ambobus rotundatis, dilute subpallidae, submurales, septis transversis numerosissimis, circ. 40, crebris, loculis cylindricis, nonnullis uno septo longitudinali divisis, membrana haud gelatinosa, long. 0.156—0.130, crass. 0.008—0.007 mm.

Polillo, *Bur. Sci. 10803* pr. p. *McGregor.* Supra folia *Euphorbiae cinereae.*

Subtrib. 2. **Gloeophragmiae.**

1. **Micropyrenula** Vain. gen. nov.

Sporae fusiformes oblongaeve, parvae, demum fuscescentes, septatae, loculis lenticularibus. Paraphyses deficientes. Gonidia Phycopeltidi affinia. Foliicola.

1. **M. olivacea** Vain. sp. nov.

Thallus tenuissimus, plagulas formans vulgo rotundatas, circ. 3—13 mm latas, saepe etiam confluentes, laevigatas aut e zoosporangiis gonidiorum papillosas, olivaceas aut raro glaucescentes, opacas, substrato arcte adnatas, hypothallo indistincto. Apothecia sparsa aut partim sat crebra, verrucas formantia hemisphaericas, 0.070—0.100 mm latas, fuscescentes aut rufescentes, opacas, nudas, margine ostiolari haud prominente, ostiolo rotundato, 0.010—0.018 mm lato. Perithecium rufescens, basi membranaceo-productum, gonidiis membranaceis obductum, hyphis e basi perithecii excrescentibus, 0.0015 mm crassis, fuscis et decoloribus. Paraphyses deficientes. Sporae 8:nae, diu decolores, demum dilute fuscescentes, fusiformi-oblongae, apicibus obtusis, rectae, 3-septatae, loculis lenticularibus, sat aequalibus, long. 0.008—0.009, crass. 0.003—0.0035 mm. Gonidia membranacea, cellulis long. 0.017—0.022, lat. 0.008—0.014 mm, rectangularibus, vulgo transversim striatis, in series radiantes dispositis, latere et apice connatis, ambitu integra aut levissime crenulata, *zoosporangiis* numerosis, solitariis aut aggregatis, erectis, ellipsoideis, long. 0.020, crass. 0.014 mm, pedicellatis, pedicello e cellula duplo angustiore brevique constante, ad genus novum Phycopeltidi affine pertinentia.

Polillo, locis numerosis a *Robinson* lecta, *Bur. Sci. 10808* pr. p. *McGregor*. Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Supra folia arborum.

Subtrib. 3. **Glaenodictyae.**

1. **Bottaria** (Mass.) Vain.

Subg. 1. **Eubottaria** Vain.

1. **B. connectens** Vain. sp. nov.

Thallus tenuissimus, epiphloeodes, laevigatus, sordide albicans, sat opacus, hypothallo indistincto. Apothecia sat crebra, simplicia

aut saepe 2—8 irregulariter varieque confluentia, nigra, nuda. Perithecium depresso-hemisphaericum, lat. 0.35—0.5 mm, fusco-fuligineum (in lamina tenui), pariete crasso, integrum, basi extrorsum anguloso-productum, vertice convexo aut margine ostiolari leviter conoideo-prominente aut levissime impresso, ostiolo saepe cinerascente. Nucleus albidus, haud guttulosus, jodo non reagens. Paraphyses simplices, crass. 0.0012—0.001 mm, gelatinam hymenialem mollem abundantem percurrentes. Asci ventricosi, membrana gelatinosa, apice leviter incrassata. Sporae 8:nae, distichae, dilute olivaceae aut dilute fumoso-nigricantes, ellipsoideae aut rarius subglobosae, submurales, cellulis paucis, seriebus cellularum 4, diu quatuorloculares, long. 0.013—0.015, crass. 0.007—0.010 mm, membrana haud gelatinosa. — Forsan rectius ad subg. *Eubottariam*, quam ad *Anthracothecium*, pertinet, in eam transiens.

Palawan, Taytay, *Merrill 9049*. Ad corticem *Terminaliae catappae*.

2. **B. subconnectens** Vain. sp. nov.

Apothecia p. p. confluentia, p. p. simplicia. — Thallus tenuis, epiphloeodes, laevigatus, albus, linea nigricante limitatus. Apothecia lat. 0.5—0.4 mm, hemisphaerica, saepe 2—6 confluentia, nigra, nuda, opaca. Perithecium fuligineum, integrum basique tenue aut dimidiatum basique deficiens, latere haud acutato-productum, margine ostiolari atro, haud impresso. Nucleus hemisphaericus, lat. circ. 0.38 mm, haud guttulosus, jodo non reagens. Paraphyses simplices. Asci cylindrici. Sporae 8:nae, monostichae, diu decolores, demum olivaceae, subglobosae aut ellipsoideae, apicibus rotundatis, murales, sat numerosis, septis transversis 3, long. 0.017—0.011, crass. 0.012—0.008 mm. Gonidia parce evoluta, ad Trentepohliam pertinentia, cellulis 0.008—0.006 mm crassis. — Est quasi variatio *B. denudatae*, apotheciis p. p. confluentibus.

Guimaras, *Merrill 6717* pr. p. Ad corticem *Cocoës nuciferae*.

Subg. 2. **Anthracothecium** (Mass.) Vain.

3. **B. columellata** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, leviter subverrucoso-inaequalis aut sat laevigatus, olivaceus aut olivaceo-fuscescens, leviter nitidus,

hypothallo nigricante partim limitatus. Apothecia solitaria, sparsa, verrucas hemisphaericas, nigras, demum nudas, primum tenuissime thallodice subobductas, magnas formans. Perithecium hemisphaericum, lat. 2.5—1.5 mm, fuligineum, integrum, columella centrali, basi dilatata, apice acuto instructa, usque ad medium nuclei prominente, basi extus acutum, haud membranaceo-dilatatum. Nucleus subglobosus aut leviter depressus, albidus, guttulas resinosas continens. Paraphyses crass. 0.0015 mm, simplices. Sporae 8:nae aut abortu pauciores, olivaceo-nigricantes, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, irregularibus, long. 0.070—0.126, crass. 0.023—0.032 mm, strato gelatinoso saepe indutae.

Palawan, *Bur. Sci. 15635 Fénix*, Taytay, *Merrill 9031*. Ad corticem arborum.

4. **B. collospora** Vain. sp. nov.

Thallus epiphloeodes aut endophloeodes, tenuissimus, albido- aut cinereo-pallescens, leviter nitidus, laevigatus, hypothallo nigricante partim limitatus. Apothecia solitaria, aut raro 2 confluentia, vulgo sparsa, verrucas formantia hemisphaericas aut depresso-hemisphaericas, 1.2—1.5 mm latas, demum nigras nudasque, primum tenuiter omnino thallodice obductas. Perithecium basi thallo immersum, elevato-hemisphaericum aut depresso-subglobosum, basi verticaliter rotundata aut leviter angulosa subplanaque, fuligineum, tenue, integrum. Nucleus depresso-subglobosus, albidus, haud guttulosus. Paraphyses simplices. Sporae (8:nae, ut videtur), fumoso-obscuratae, oblongae, apicibus rotundatis, murales, cellulis numerosissimis, long. circ. 0.140, crass. 0.040 mm, strato gelatinoso, decolore, circ. 0.008 mm crasso primum indutae. Apothecia ostiolo in vertice aut saepe in latere oblique disposito, margine ostiolari haud prominente, maculam punctiformem rufescentem formante, annulo angusto pallido subalbicanteve cincto.

Luzon, Subprov. Benguet, 1500 m s. m., *Merrill 7946*. Ad corticem arboris.

5. **B. libricola** (Fée) Vain. Fl. Koh Chang Lich. (1909) p. 374, Addit. Lich. Antill. (1915) p. 188.

Thallus pallidus aut pallido-glaucescens. Apothecia crebra aggregatave. Perithecium globosum, lat. 0.7—0.3 mm, diu thallo substratoque immersum, demum emergens et parte emersa hemisphaerica nigricante nudaque, vertice convexo, integrum, fuscofuligineum (in lamina tenui). Nucleus albidus. Paraphyses simplices, crass. 0.001 mm. Sporae 8:nae, distichae, fumoso-fuscescentes, oblongae, apicibus rotundatis aut rarius obtusis, murales, cellulis sat numerosis, seriebus transversis cellularum 8, long. 0.035—0.039, crass. 0.012—0.015 mm, membrana haud gelatinosa.

Palawan, Taytay, *Merrill 9034.* Ad corticem arboris.

6. **B. endococcinea** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, laevigatus, fulvo-olivaceo- et albido-pallescenti-variegatus, hypothallo indistincto. Apothecia crebra. Perithecium globosum, lat. 0.3—0.45 mm, diu thallo substratoque immersum, demum emergens et parte emersa hemisphaerica, demum nigricante vel fusco-nigricante, nuda, in lamina tenui fuscofuligineum, in limite nuclei partim rubricosum, integrum. Nucleus ceterum albidus, haud guttulosus. Paraphyses simplices, crass. 0.001 mm. Sporae 8:nae, distichae, nigricantes, oblongae, apicibus rotundatis aut rarius obtusis, murales, cellulis sat numerosis, seriebus transversis cellularum 8, long. 0.023—0.032, crass. 0.010—0.013 mm, membrana haud gelatinosa. — Praesertim colore perithecii a *B. libricola* differt.

Luzon, Subprov. Rizal, Taytay, *Merrill 6343.* Ad corticem *Fluggeae obovatae.*

7. **B. submucosa** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, levissime verruculoso-inaequalis, verruculis valde depressis minutissimisque, aut partim sat laevigatus, pallidus aut passim parce fuscescenti-variegatus, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia crebra. Perithecium globosum, lat. 0.6—0.35 mm, semiimmersum, fuscofuligineum, integrum, parte emersa hemisphaerica, nigra, nuda, parum nitida, margine ostiolari gibbam parum prominentem minutissimam concolorem saepe formante, ostiolo parum conspicuo. Nucleus albidus, haud guttulosus. Paraphyses simplices. Sporae 8:nae, disti-

chae, fumoso-olivaceae, oblongae aut ellipsoideae, apicibus rotundatis aut rotundato-obtusis, murales, cellulis numerosis, seriebus transversis cellularum 8, long. 0.028—0.044, crass. 0.014—0.018 mm, strato gelatinoso tenui indutae. — Proxima *B. mucosae* Vain., Hedw. 1899 p. 257.

Luzon, Subprov. Laguna, *Bur. Sci. 9705* pr. p. *Robinson.* Ad corticem arboris.

8. **B. erythrinae** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, sat laevigatus aut vix distincte verruculosus, albidus aut albido-pallescenti-variegatus, parum nitidus, hypothallo indistincto. Apothecia crebra. Perithecium globosum, lat. 0.5—0.4 mm, semiimmersum, fuscofuligineum, integrum, parte emersa hemisphaerica, nigra, nuda, opaca, margine ostiolari haud aut parum prominente, concolore; ostiolum puncto subalbido minutissimo saepe indicatum. Nucleus albidus. Paraphyses simplices aut interdum parce dichotome ramosae. Asci ventricosi. Sporae 8:nae, distichae, fumoso-nigricantes fuscescentesve, oblongae, apicibus vulgo obtusis, murales, cellulis sat numerosis, seriebus transversis cellularum 8, long. 0.027—0.038, crass. 0.012—0.017 mm, strato gelatinoso tenui saepe indutae, loculis lenticularibus in statu juvenili. — Thallo subalbido-variegato et sporis obtusis a specie praecedente leviter recedit.

Luzon, Subprov. Laguna, Los Baños, *Baker 549.* Ad corticem *Erythrinae.*

9. **B. albidopallens** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, leviter, at parum distincte verruculosus, sordide albido-pallescens, parum nitidus, linea hypothallina nigricante partim limitatus. Apothecia crebra. Perithecium globosum, lat. 0.3—0.35 mm, semiimmersum, fuscofuligineum, integrum, parte emersa hemisphaerica, nigra, opaca, margine ostiolari haud prominente, concolore; ostiolum poro minuto indicatum. Nucleus albidus, haud guttulosus. Paraphyses simplices. Sporae 8:nae, distichae, fumoso-olivaceae, ellipsoideae, apicibus rotundatis aut raro obtusis, murales, cellulis sat numerosis, seriebus transversis cellularum 8, long. 0.020—0.032, crass. 0.010—0.014 mm, strato gelati-

noso tenui saepe indutae. — Praesertim apotheciis minoribus, sporis ellipsoideis et colore thalli a speciebus praecedentibus differt.

Luzon, in viciniis Manilae, *Merrill 8495*. Ad corticem arboris.

10. **B. gibberulosa** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, pallido-cinerascens aut leviter pallido-variegatus, crebre gibbosus, gibbis minutissimis, subpallidis aut thallo fere concoloribus, leviter nitidus, linea hypothallina partim limitatus. Apothecia crebra. Perithecium globosum, lat. 0.4—0.3 mm, semiimmersum, fuscofuligineum, integrum, parte emersa hemisphaerica, nigra, opaca, margine ostiolari haud aut levissime prominente, concolore; ostiolum saepe puncto cinerascente minutissimo indicatum. Nucleus albidus. Paraphyses simplices. Asci subventricosi. Sporae 8:nae, distichae, fumoso-obscuratae, oblongae, apicibus rotundatis, septis transversis 5, loculis lenticularibus, demum submurales et loculis 1—4 mediis bicellulosis (septo uno longitudinali), long. 0.021—0.029, crass. 0.011—0.013 mm, membrana haud gelatinosa. — Proxima est *B. parameraе* (Nyl.) et *B. parameroidi* Vain. (Fl. Koh Chang Lich. 375), quae praesertim thallo haud gibboso ab ea differunt.

Luzon, in viciniis Manilae, *Merrill 8522*. Ad corticem *Hibisci tiliacei* L.

11. **B. ochrotropa** (Nyl.) Vain. Étud. Lich. Brés. II (1890) 197.

Thallus tenuis, epiphloeodes, ochraceus aut fulvo-rubescens aut albidus, opacus, hypothallo indistincto. Apothecia sat crebra, verrucas formantia 0.3 (0.2—0.4) mm latas, hemisphaericas aut conoideo-hemisphaericas, saltem basin versus strato tenui ochraceo aut subrubescente, KHO solutionem violaceam effundente obductas, apice plus minusve late denudatas, fusco-nigricantes. Perithecium subglobosum, olivaceo-fuscescens, vertice demum leviter subconoideo-prominente. Nucleus albidus. Paraphyses simplices. Asci cylindrico-ventricosi, long. 0.070—0.064, crass. 0.020—0.018 mm. Sporae 8:nae, distichae, fumoso-olivaceae, ellipsoideae, apicibus rotundatis, murales, cellulis sat numerosis, seriebus transversis cellularum 4,

long. 0.017—0.014, crass. 0.011—0.008 mm, membrana haud gelatinosa.

Luzon, Subprov. Tayabas, Atimonan, *Merrill 3989*. Palawan, Taytay, *Merrill 9019* pr. p. Guimaras, *Merrill 6718*. Insulae Marianae, Guam, *McGregor 615*. Ad corticem *Cocoës nuciferae*.

12. **B denudata** (Nyl.) Vain. Fl. Koh Chang Lich. (1909) 375.

Thallus tenuis, epiphlocodes, laevigatus, albidus, leviter nitidus, linea hypothallina nigricante angusta limitatus. Apothecia sat crebra aut sparsa, verrucas formantia 0.3—0.4 mm latas, hemisphaericas, nigras, nudas, sat opacas. Perithecium fuscofuligineum (in lamina tenui), hemisphaericum, basi haud dilatatum, integrum. Nucleus albidus, haud guttulosus. Paraphyses simplices. Asci cylindrici. Sporae 8:nae, monostichae aut distichae, fumoso-obscuratae aut pallidae, ellipsoideae aut subglobosae, apicibus rotundatis, murales, cellulis sat numerosis aut sat paucis, seriebus transversis cellularum 4, long. 0.019—0.011, crass. 0.014—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Tayabas, Atimonan, *Merrill 3990* pr. p. Palawan, Taytay, *Merrill 9018, 9037*. Guimaras, *Merrill 6717* pr. p. Ad corticem *Cocoës nuciferae*.

13. **B. confinis** (Nyl.) Vain. Fl. Koh Chang Lich. (1909) 376.

Thallus tenuis, epiphlocodes, laevigatus, albidus, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat crebra aut sparsa, verrucas formantia circ. 0.3 mm latas, hemisphaericas, cinerascentes aut cinereo-nigricantes, strato tenuissimo thallino obductas, vertice convexas, margine ostiolari nec prominente nec impresso. Perithecium fusco- aut rubricoso-fuligineum (in lamina tenui), subhemisphaericum, integrum, latere haud acutato-producto. Nucleus albidus, depresso-subglobosus. Paraphyses simplices. Sporae 8:nae, distichae aut monostichae, ellipsoideae aut subglobosae, apicibus rotundatis, fumoso-obscuratae, murales, seriebus transversis cellularum 4, cellulis haud numerosis, long. 0.015—0.011, crass. 0.011—0.008 mm, membrana haud gelatinosa.

Palawan, Taytay, *Merrill 9056*. Ad corticem arboris.

Subtrib. 4. **Pyrenulaceae.**

1. **Pyrenula** (Fée) Vain.

Subg. 1. **Melanotheca** (Fée) Vain.

1. **P. polillensis** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, laevigatus, pallidus, parum nitidus, partim hypothallo nigricante limitatus. Apothecia 2—3 confluentia aut p. p. simplicia, lat. 1 mm, raro —0.6 mm, verrucas formantia depresso-hemisphaericas, tenuissime thallodice velatas, subcinereo-nigricantes, margine ostiolari anguste pallido, leviter aut parum prominente, ostiolo minuto, rufescente, haud impresso. Perithecium hemisphaericum, integrum, rubricoso-fuligineum (in lamina tenui), latere basin versus sensim dilatato, extrorsum haud producto. Paraphyses simplices, crass. 0.0008 mm, gelatinam hymenialem percurrentes. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae, fumoso-obscuratae, cylindrico-oblongae, apicibus obtusis, 3-septatae, loculis lenticularibus, aequalibus, long. 0.013—0.014, crass. 0.004—0.005 mm, membrana haud gelatinosa.

Polillo, *Bur. Sci. 6837, Robinson.*

2. **P. rizalensis** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, leviter verruculoso-inaequalis, olivaceo-pallidus, nitidus, hypothallo indistincto. Apothecia p. p. solitaria, 0.5—0.7 mm lata, hemisphaerica, latere extrorsum haud producta, saepe 2—3 (—9) irregulariter confluentia, nigra, nuda, perithecciis fusco-fuligineis, dimidiatis, basi concavis, margine ostiolari levissime aut parum prominente, concolore, ostiolo minuto. Nucleus albidus, haud guttulosus. Paraphyses simplices. Asci clavati. Sporae 8:nae, distichae, fumoso-nigricantes, fusiformes, apicibus obtusis, 3-septatae, loculis sat aequalibus, long. 0.030—0.040, crass. 0.014—0.015 mm, membrana haud gelatinosa, intus bene incrassata.

Luzon, Subprov. Rizal, Taytay, *Merrill 6337.* Ad corticem *Fluggeae obovatae.*

3. **P. subgriseola** Vain. sp. nov.

Thallus tenuis, epiphloeodes, laevigatus, albido-pallescens, sat opacus, hypothallo nigricante limitatus. Apothecia 2—6 confluentia

aut subconfluentia aut p. p. simplicia et sat crebra, lat. 0.6—0.7 mm, verrucas formantia depresso-hemisphaericas, tenuissime et vix distincte subthallodice velatas aut subnudas, nigricantes aut subcinereo-nigricantes, margine ostiolari haud aut parum prominente, nigricante, ostiolo inconspicuo aut minutissimo albidoque, haud impresso. Perithecium hemisphaericum, fuligineum, integrum, latere extrorsum haud producto. Asci cylindrici. Sporae 8:nae, monostichae, fumoso-nigricantes, ellipsoideae, apicibus rotundatis, lateribus convexis aut cylindricis, 3-septatae, loculis lenticularibus, sat aequalibus, long. 0.013—0.015, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Habitu subsimilis est *P. griseolae* Vain. Addit. Lich. Antill. p. 190.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6261.*

4. **P. anomala** (Ach.) Vain. Addit. Lich. Antill. (1915) p. 189. *Trypethelium anomalum* Ach. Syn. Lich. p. 105 pr. p. (specimen in Indiis lectum). *Melanotheca Achariana* Fée Ess. Crypt. Écorc. Suppl. p. 71; Müll. Arg. Pyr. Fecan. (1888) p. 18.

Thallus tenuissimus, laevigatus, olivaceo- et cinerascenti-varicgatus, leviter nitidus. Pseudostromata irregularia, nigricantia, apothecia parca continentia, p. p. etiam apothecia solitaria, latere sat abrupte elevato, margine ostiolari nigro, haud impresso, ostiolo minutissimo, saepe cinerascente. Perithecium fuligineum, integrum. Paraphyses simplices. Asci cylindrici. Sporae 8:nae, monostichae aut distichae, fumoso-nigricantes, oblongae aut cylindrico-oblongae, apicibus obtusis, lateribus cylindricis aut convexis, 3-septatae, loculis lenticularibus, sat aequalibus, long. 0.016—0.019, crass. 0.006—0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 6249.* Ad corticem arboris.

5. **P. anomaloides** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, laevigatus, olivacco-pallidus, nitidus. Apothecia parce solitaria, 0.7—1 mm lata, nigra, nuda, subhemisphaerica, latere anguloso-producta, saepius in pseudostroma confluentia. Pseudostroma irregularia, extus et intus nigricantia,

apothecia 2—8 continentia, latere sat abrupto aut partim basin versus sensim dilatato et attenuato-producto, peritheciis fuligineis, subdimidiatis aut basi tenuibus, verticibus vulgo conspicuis prominentibusque, margine ostiolari vulgo leviter prominente pallescenteque, ostiolo minuto, saepe cinerascente. Paraphyses simplices. Asci cylindrici. Sporae 8:nae, monostichae, fumoso-obscuratae, oblongae aut ellipsoideae, lateribus convexis aut rarius cylindricis, apicibus obtusis, 3-septatae, loculis anguloso-lenticularibus, apicalibus paullo minoribus, long. 0.014—0.018, crass. 0.008 mm, membrana haud gelatinosa. — Proxima est *P. anomalae*.

Luzon, Subprov. Rizal, *Bur. Sci. 6745 Robinson.*

6. **P. subdissidens** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, laevigatus, pallidus aut dilute subolivaceo-pallescens, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia 2—24 irregulariter aut in series elongatas confluentia aut abundanter simplicia et crebre aggregata, 0.3—0.25 mm lata, hemisphaerica, lateribus sat abruptis, extrorsum haud attenuato-productis, nigra, nuda. Perithecium in lamina tenui rubricoso- aut subfuscescenti-fuligineum, integrum, margine ostiolari concolore, haud aut parum prominente, haud impresso, ostiolo minuto, albido. Nucleus albidus, parum resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, distichae aut raro monostichae, fumoso-fuscescentes, oblongae, apicibus obtusis, 3-septatae, loculis lenticularibus, loculis apicalibus paullo minoribus, long. 0.013—0.015, crass. 0.005—0.006 mm, membrana haud gelatinosa. — Facie externa *P. subaggregatam* Müll. Arg. et *P. biliranam* Vain. in memoriam revocans.

Palawan, Taytay, *Merrill 9032,* ad corticem *Pongamiae mitis.* Luzon, Subprov. Rizal, *Bur. Sci. 16989 Ramos,* item ad corticem arboris.

Subg. 2. **Eupyrenula** (Fée) Vain.

Sect. 1. **Dimidiata** Müll. Arg.

7. **P. bilirana** Vain. sp. nov.

Thallus hypophloeodes aut endophloeodes, macula cinereo-pallescente indicatus, laevigatus, opacus, hypothallo indistincto. Apothecia partim aggregata crebraque, simplicia aut parce 2 confluentia,

aut raro 3—4 confluentia, verrucas formantia subconoideo-hemisphaericas, leviter prominentes, nigras, nudas, sat opacas. Perithecium rubricoso-fuscescenti-fuligineum, subhemisphaericum, dimidiatum, lat. circ. 0.2 mm, basi membranaceo-producta, circ. 0.3—0.5 mm lata, rotundata aut rarius subelliptica et long. —0.5 mm, margine ostiolari leviter prominente, subconcolore aut leviter fuscescente, ostiolo minutissimo, haud foveolato. Nucleus albidus. Paraphyses simplices, crass. 0.001 mm. Sporae 8:nae, distichae aut monostichae, diu decolores, demum submorbose fuscescentes, jodo non reagentes, ellipsoideae, apicibus rotundatis aut obtusis, 3-septatae, loculis lenticularibus, sat aequalibus, long. 0.011—0.012, crass. 0.005—0.006 mm, membrana haud gelatinosa. — Intermedia est inter *Eupyrenulas* et *Melanothecas*. *P. subaggregatae* Müll. Arg. (Pyr. Cub. 410) proxima et habitu similis, perithecio dimidiato ab ea differens.

Biliran, *Bur. Sci. 18443 McGregor*. Ad corticem arboris.

8. **P. albothallina** Vain. sp. nov.

Thallus epiphloeodes, tenuissimus, laevigatus, albus, opacus, hypothallo nigricante aut pallescente partim limitatus. Apothecia sat crebra, lat. 0.6—0.5 mm, verrucas formantia depresso-hemisphaericas, nigras, nudas, opacas. Perithecium fuligineum, hemisphaericum, nudum, dimidiatum basique deficiens aut subintegrum basique tenue, latere haud acutato-producto, margine ostiolari concolore, haud prominente, ostiolo parvo. Nucleus albidus, resinoso-guttulosus. Paraphyses simplices. Asci cylindrici. Sporae monostichae aut subdistichae, fumoso-obscuratae, oblongae aut ellipticae, lateribus rotundatis, apicibus obtusis, verrucula apicali nulla, 3-septatae, loculis sat aequalibus, long. 0.010—0.013, crass. 0.005—0.006 mm, membrana haud gelatinosa. — Thallo albo, sporis minoribus et perithecio haud bene integro a *P. mamillana* (Ach.) differt.

Palawan, Taytay, *Merrill 9029*. Ad corticem arboris.

Sect. 2. **Pyramidalis** Müll. Arg.

9. **P. marginata** (Hook.) Trev. Caratt. (1853) 13; Vain. Étud. Lich. Brés. II (1890) 200; Müll. Arg. Pyrenoc. Queensl. (Australasian Assoc. for Advanc. Scienc. Brisb., 1895) 9.

Thallus endophloeodes, laevigatus, macula pallida indicatus, nitidus, hypothallo nigricante cinctus. Apothecia sparsa, lat. vulgo 1.7—2 mm, rarius minora, verrucas formantia hemisphaericas, nigras, nudas, nitidas, perithecio fuligineo, integro, latere extrorsum haud acutato-producto, margine ostiolari haud aut raro leviter prominente, haud impresso, concolore, ostiolo parvo. Sporae fumoso-obscuratae, oblongae, apicibus rotundatis aut obtusis, lateribus convexis, 3-septatae, loculis apicalibus minoribus, long. 0.020—0.025, crass. 0.008—0.013 mm, membrana haud aut leviter gelatinosa. — Sporis paulum differt a speciminibus brasilianis. Nominetur var. *australasiàtica* Vain.

Luzon, Subprov. Cagayan, *Forestr. Bur. 16806 H. M. Curran.* Ad corticem arboris.

10. **P. samarana** Vain. sp. nov.

Thallus epiphloeodes aut endophloeodes, laevigatus, pallido-cinerascens, opacus, tenuis, hypothallo fuscescente limitatus. Apothecia dispersa, lat. 1.2—1 (—0.8) mm, verrucas formantia, conoideo-hemisphaericas, nigras, nudas, saepe vertice subnitidas, perithecio hemisphaerico, fuligineo, integro, basi tenuiore, latere haud acutato-producto, margine ostiolari concolore, conoideo-prominente, haud impresso, ostiolo parvo. Nucleus albidus. Paraphyses simplices. Sporae 8:nae, monostichae, fuscescentes, fusiformi-oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus, long. 0.012—0.017, crass. 0.005—0.006 mm, membrana haud gelatinosa. — Proxima *P. philippinae* Vain., praesertim thallo et sporis ab ea differens.

Samar, prope flumen Catubig, *Bur. Sci. 24931 Edaño.*

11. **P. philippina** Vain. sp. nov.

Thallus hypophloeodes vel endophloeodes, laevigatus, macula sordide albida aut pallida indicatus, sat opacus aut leviter nitidus, hypothallo nigricante partim limitatus. Apothecia dispersa, lat. 1.5—0.5 mm, verrucas formantia hemisphaericas, nigras, nudas, saepe vertice nitidas, perithecio hemisphaerico, fuligineo, integro, latere extrorsum haud acutato-producto, margine ostiolari concolore, haud aut leviter subconoideo-prominente, haud impresso, ostiolo parvo.

Nucleus albidus, resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, distichae, olivaceo-fulvescentes aut obscuratae, oblongae aut fusiformes, apicibus obtusis aut rotundato-obtusis aut sat acutis, 3-septatae, loculis apicalibus paullo minoribus, long. 0.018—0.024, crass. 0.007—0.013 mm, membrana haud gelatinosa. — Sporis majoribus et peritheciis latere haud acutato-productis a *P. submarginata* Vain. et peritheciis majoribus, nec latere productis, a *P. Kunthii* Fée differt.

Luzon, Subprov. Bataan, mons Mariveles, 800 m s. m., *Merrill 3972*. Negros, Canlaon Volcano, alt. 5000 ped., *Merrill 6863*. Ad corticem arborum. Postea collecta etiam ad corticem *Rhizophorearum* in Biliran, *Bur. Sci. 18438 McGregor*.

12. **P. pileata** Vain. sp. nov.

Thallus hypophloeodes, laevigatus, macula olivacea indicatus, sat opacus, linea hypothallina nigricante partim limitatus. Apothecia sparsa, lat. 2.2—1.5 (—1.3) mm, verrucas formantia hemisphaericas, parte inferiore obscure cinerascentes et tenuissime subthallodice obductas, vertice vel demum totas denudatas nigricantesque, opacas, perithecio hemisphaerico, fuligineo, integro, latere extrorsum haud acutato-producto, basi applanata, tenuiore, saepe columella instructa, margine ostiolari concolore, saepe demum leviter conoideo-prominente, prominentia angusta, ostiolo minutissimo. Paraphyses simplices. Sporae fumoso-obscuratae, cylindrico-oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus, long. 0.017—0.020, crass. 0.005—0.007 mm, membrana haud gelatinosa. — Loculi ambo apicales hypha brevi germinantes interdum observantur.

Luzon, Subprov. Rizal, *Bur. Sci. 16992 Ramos*. Ad corticem arboris.

13. **P. irosina** Vain. sp. nov.

Thallus epiphloeodes et endophloeodes, sat tenuis, sat laevigatus, sordide albidus, sat opacus. Apothecia sparsa, lat. 2.5—1.5 mm, verrucas formantia depresso-hemisphaericas, primum totas tenuiter thallodice obductas, demum totas denudatas nigricantesque, leviter nitidas opacasve. Perithecium hemisphaericum, primum thallo immersum, demum emergens, fuligineum, basi tenue aut deficiens,

latere extrorsum haud acutato-productum, margine ostiolari parum prominente, nigro, ostiolo parvo. Nucleus albidus, leviter resinoso-guttulosus. Sporae 8:nae, monostichae, fumoso-obscuratae, cylindrico-oblongae, apicibus abrupte obtusatis aut sat acutatis, 3-septatae, loculis sat aequalibus, long. 0.016—0.024, crass. 0.005—0.009 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14928*. Ad corticem arboris.

14. **P. cinereovelata** Vain. sp. nov.

Thallus epiphloeodes, tenuis, sat laevigatus, pallidus aut cinereo-glaucescenti-pallidus, sat opacus. Apothecia sparsa, lat. 1.1—0.8 mm, verrucas formantia depresso-hemisphaericas, totas tenuiter subthallodice obductas, cinereo-nigricantes, opacas, margine ostiolari subconcolore aut paullo pallidiore, leviter prominente, minute umbonatas. Perithecium fuligineum, integrum, bene compressum, basi leviter concavo, latere extrorsum haud acutato-productum. Nucleus albidus. Sporae fumoso-obscuratae, subfusiformes, lateribus cylindricis, apicibus sat abrupte obtusatis, 3-septatae, loculis sat aequalibus, long. 0.017—0.020, crass. 0.006 mm. — Nomine „*V. santensis*“ a Nyl. in Syn. Lich. Nov. Cal. p. 88 e Lifu commemoratur, at primaria *V. santensis* Tuck. (*V. marginata* v. *santensis* Nyl. Exp. Pyrenoc. p. 45) est diversa species, apotheciis minoribus, 0.6—0.7 mm latis, partim confluentibus ab ea recedens, et ad subg. *Melanothecam* pertinet.

Polillo, *Bur. Sci. 6934 Robinson*. Ad corticem arboris.

15. **P. comirana** Vain. sp. nov.

Thallus sat tenuis, epiphloeodes, laevigatus, olivacco-fuscescens aut pallido-olivaceus, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia crebra et partim 2—3 confluentia, lat. 0.9—0.7 (—0.5) mm, verrucas formantia hemisphaericas, nigras, nudas, parum nitidas. Perithecium hemisphaericum, fuligineum, integrum, basi plana, latere haud acutato-producto, margine ostiolari haud aut parum prominente, nigro, ostiolo parvo. Nucleus sordide albidus, bene resinoso-guttulosus. Sporae fumoso-obscuratae, fusiformes, apicibus obtusis, 3-septatae, loculis apicalibus paullo mino-

ribus, long. 0.016—0.021, crass. 0.007—0.008 mm, membrana haud gelatinosa. — Intermedia est inter *P. Kunthii* Fée et *P. mamillanam* (Ach.), quae posterior in herb. Ach. apotheciis 0.6 mm latis instructa est.

Ins. Comiran, in Mari Suluensi, *Merrill 7162.* Ad corticem arboris.

16. **P. pachyspora** Vain. sp. nov.

Thallus tenuis, epiphloeodes, laevigatus, albidus, sat opacus, linea hypothallina nigricante partim limitatus. Apothecia sat dispersa, lat. 1—0.8 mm, verrucas formantia hemisphaericas, atras, nudas, margine ostiolari saepe nitido et leviter prominente. Perithecium fuligineum, integrum, hemisphaericum, basi plana, latere haud acutato-producto, ostiolo parvo. Nucleus albidus, bene resinoso-guttulosus. Paraphyses simplices. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae, fumoso-obscuratae vel olivaceae, late ellipsoideo-fusiformes, apicibus obtusis, saepe verrucula minutissima terminatis, 3-septatae, loculis apicalibus paullo minoribus, long. 0.019—0.025, crass. 0.011—0.017 mm, membrana haud gelatinosa. — A *P. Kunthii* Fée sporis differt.

Luzon, Subprov. Bataan, Limay, *Bur. Sci. 6197 Robinson.* Ad corticem arboris.

17. **P. mamillana** (Ach.) Trev. Consp. Verr. (1860) 13; Müll. Arg. Pyr. Fecan. (1888) 30, Pyr. Queensl. (1895) 9.

Var. **bataana** Vain.

Thallus epiphloeodes, tenuis, laevigatus, albido-pallescens aut subalbidus, leviter nitidus, hypothallo nigricante partim limitatus. Apothecia sat crebra aut sparsa, lat. 0.5—0.7 mm (in specim. orig. in herb. Ach. lat. 0.6 mm), verrucas formantia hemisphaericas, nigras, nudas, opacas. Perithecium fuligineum, hemisphaericum, integrum, basi tenue, latere haud acutato-producto, margine ostiolari demum levissime prominente, prominentia valde angusta, ostiolo parvo. Nucleus albidus, resinoso-guttulosus. Sporae monostichae, ellipsoideae aut oblongae, apicibus obtusis, fumoso-fuscescentes, 3-septatae, loculis apicalibus paullo minoribus, long. 0.011—0.015, crass. 0.005—0.007 mm, membrana haud gelatinosa. — Sporis a

P. mamillana (Ach.) differt. In specim. orig. in herb. Ach. perithecia extrorsum angulato-subproducta.

Luzon, Subprov. Bataan, mons Mariveles, *Merrill 3969.* Ad corticem arboris. — Prope Dupax in Subprov. Nueva Vizcaya, (*Bur. Sci. 14322*) planta, ut videtur, huc pertinens, a *McGregor* collecta est, apotheciis instructa vacuis, 0.7 mm latis, pycnoconidangiis hemisphaericis, 0.5—0.4 mm latis, sterigmatibus simplicibus, long. 0.020, crass. 0.0005 mm, pycnoconidiis filiformibus, arcuatis, long. 0.024—0.026, crass. 0.0005 mm.

18. **P. glabriuscula** (Nyl.) Vain. Fl. Koh Chang Lich., 1909, p. 378.

Sporae ellipsoideae, apicibus rotundatis aut raro obtusis, vulgo verrucula apicali nulla, 3-septatae, loculis apicalibus multo minoribus, long. 0.013—0.017, crass. 0.008—0.010 mm.

Biliran, *Bur. Sci. 18451 McGregor.* Sina, Prov. Kwangtung, mont Loh Fau, *Merrill 11140.* Ad corticem arborum.

19. **P. fuscoolivacea** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, laevigatus, olivaceo-fuscescens aut pallido-olivaceus aut obscure cinereo-fuscescens, sat opacus, hypothallo indistincto. Apothecia crebra, parcius nonnulla subconfluentia, lat. circ. 0.5 (0.4—0.6) mm, verrucas formantia hemisphaericas aut depresso-hemisphaericas, nigras, nudas, opacas. Perithecium (in lamina tenui) fusco-fuligineum, hemisphaericum, integrum, nudum, latere haud acutato-producto, margine ostiolari haud prominente, concolore, ostiolo parvo. Nucleus albidus, resinoso-guttulosus. Sporae distichae, fumoso-obscuratae, ellipsoideae, apicibus rotundatis aut obtusis, verrucula apicali nulla, 3-septatae, loculis apicalibus minoribus, long. 0.012—0.020, crass. 0.008—0.009 mm, membrana haud gelatinosa. — *P. fuscoluridam* Vain. in memoriam revocans.

Ins. Comiran in Mari Suluensi, *Merrill 7161.* Ad corticem arboris.

20. **P. apayaoënsis** Vain. sp. nov.

Thallus hypophloeodes aut endophloeodes, macula pallida indicatus, laevigatus, parum nitidus, linea tenui fuscescente hypothallina limitatus. Apothecia sat crebra, simplicia, lat. 0.6—0.4 mm, verrucas formantia subconoideo-hemisphaericas, leviter prominentes, subcinerascenti-nigras, tenuissime obvelatas, opacas. Perithecium

fusco-fuligineum, subhemisphaericum, basi tenue, latere anguste membranaceo-producto, margine ostiolari leviter prominente, concolore, ostiolo parvo. Nucleus albidus. Sporae 8:nae, submonostichae, fuscescentes, oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus, long. 0.009—0.013, crass. 0.005 mm, membrana haud gelatinosa.

Luzon, Subprov. Apayao, *Bur. Sci. 28343 Fénix.* Ad corticem arboris.

Sect. 3. **Subglobosa** Müll. Arg.

21. **P. mangiferae** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, laevigatus, cinerascenti-olivaceo-pallidus, sat opacus, linea hypothallina nigricante partim limitatus. Apothecia crebra aut sat crebra, parce 2—3 subconfluentia, at. 0.7—0.8 mm, verrucas formantia hemisphaericas, primum tenuissime subthallodice obvelatas subfuscescentesque, demum nigricantes opacasque aut basi anguste obvelatas. Perithecium globosum, fuscofuligineum, integrum, demum semiimmersum, margine ostiolari concolore, haud prominente, ostiolo parvo. Nucleus albidus, resinoso-guttulosus. Paraphyses simplices. Asci ventricosi. Sporae 8:nae, distichae, fusiformes, apicibus obtusis, olivaceo-fuscescentes, 5-septatae, apices versus loculis sensim diminutis, long. 0.032—0.036, crass. 0.012—0.013 mm, saepe strato gelatinoso tenuissimo indutae. — Affinis *P. sexloculari* (Nyl.) Müll. Arg. et *P. cyrtosporae* (Stirt.) Müll. Arg.

Ins. Guimaras, *Bur. Sci. 1801 b Robinson.* Ad corticem *Mangiferae indicae.*

22. **P. flavofulvescens** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, laevigatus, fulvescens aut stramineo- vel flavido-fulvescens, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia crebra, parva, thallo substratoque immersa, haud aut parum emergentia et verruculas 0.3—0.4 mm latas formantia. Perithecium subglobosum, lat. 0.27—0.35 mm, immersum, fuscofuligineum, integrum, vertice 0.1—0.25 mm lato demum denudato aut subdenudato, maculam nigricantem aut cinereo-nigricantem, rotundatam aut subellipsoideam formante, mar-

gine ostiolari haud prominente, ostiolo minutissimo, parum distincto. Nucleus albidus. Paraphyses simplices. Asci cylindrici, membrana tenui. Sporae 8:nae, monostichae aut subdistichae, umbroso-olivaceae, oblongae, apicibus obtusis aut acutato-obtusis, 5-septatae, loculis apicalibus multo minoribus, long. 0.024—0.031, crass. 0.008—0.012 mm, membrana haud gelatinosa, intus bene incrassata. — *P. aspisteam* Ach. apotheciis in memoriam revocans, at thallo et sporis ab ea differens.

Palawan, Taytay, *Merrill 9043.* Ad corticem *Calophylli inophylli.*

23. **P. Vanoverberghii** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, subglaucescenti-cinereo-albidus, gibbis minutis paullo distinctius albidis sat crebre inspersus, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia primum thallo substratoque immersa subimmersaque, demum emergentia semiimmersaque, verrucas hemisphaericas, 0.7—0.5 mm latas formantia. Perithecium globosum, fuligineum, integrum, basi tenue, parte emergente denudata, margine ostiolari haud prominente, latere interiore albido, ostiolo puncto albido indicato. Nucleus albidus, haud resinoso-guttulosus. Paraphyses simplices. Asci ventricosi, membrana tenui. Sporae 8:nae, distichae, olivaceo-fuscescentes, fusiformi-oblongae, apicibus obtusis, 3-septatae, loculis apicalibus minoribus, long. 0.030—0.035, crass. 0.011—0.015 mm. — Affinis *P. subductae* (Nyl.), quae secundam specimina orig. thallo laevigato et margine ostiolari nigro et sporis majoribus ab ea differt.

Luzon, Subprov. Bontoc, Bauco, alt. 1450 m, *M. Vanoverbergh 3087.* Ad corticem arboris.

24. **P. pallidofulvescens** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, leviter verruculoso- et verrucoso-inaequalis, pallido-fulvescens (aut stramineo- vel flavido-fulvescens in var. **fulvostraminea** Vain.), leviter nitidus, KHO demum rubricoso-rufescens, linea hypothallina nigricante partim limitatus. Apothecia verrucas formantia 1.2—1 (—1.5) mm latas, hemisphaericas, strato thallino laevigato, nitido, thallo concolore, crassiusculo, circa verticem nigricantem impressamque abrupte limitato majore

parte inferiore vestitas, basi leviter constrictas aut praeruptas, intus dilute flavescentes et KHO rubricoso-rufescentes. Perithecium globosum, fuscofuligineum, integrum, vertice 0.5—0.3 mm lato nudo, margine ostiolari nigricante, haud aut raro leviter prominente, ostiolo minutissimo, interdum albido. Asci cylindrici. Paraphyses simplices. Sporae 8:nae, monostichae, olivaceae, oblongae, apicibus obtusis aut rotundatis, 3-septatae, loculis anguloso-rotundatis, minutis, poro conjunctis, membrana intus bene incrassata, haud gelatinosa, long. 0.032—0.037, crass. 0.012—0.014 mm. — Proxima est *P. mastophoroidi* Nyl. (Prodr. Lich. Nov.-Gran. 490), quae ab ea thallo differt stramineo, KHO demum rubricoso-rufescente, vertice apotheciorum tenuissime subvelato aut raro leviter denudato, amphithecio distincte verruculoso. Item *P. oculifera* Vain. (Cat. Welw. Afr. Pl. Lich. 454).

Palawan, Taytay, *Merrill 9054*. Ad corticem *Pongamiae mitis* una cum var. *fulvostraminea* Vain.

25. **P. stramineoatra** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, leviter verruculoso-inaequalis aut fere laevigatus, stramineus, leviter nitidus, KHO demum dilute rufescens, linea hypothallina nigricante partim limitatus. Apothecia verrucas formantia 1.1—0.8 mm latas, hemisphaericas, strato thallino laevigato, nitido, thallo concolore, crassiusculo, circa verticem nigricantem sensim attenuato, intus stramineo et KHO demum dilute rufescente, majore parte inferiore vestitas, basi parum praeruptas vel potius sensim dilatatas. Perithecium globosum, fuligineum, integrum, vertice 0.5—0.2 mm lato nudo, margine ostiolari nigricante umbonato-prominente, ostiolo minuto, interdum albido. Nucleus albidus, haud resinoso-guttulosus. Paraphyses simplices. Asci subcylindrici, membrana tenui. Sporae 8:nae, monostichae, oblongae, apicibus obtusis aut subacuminatis, fumoso-pallidae, 3-septatae, loculis lenticularibus, long. 0.020, crass. 0.008—0.009 mm. — *P. mastophora* (Nyl.), Exp. Lich. Nov. Cal. (1861) p. 52, ab hac distinguitur thallo pallido, laevigato, nitido, KHO non reagente, sporis „long. 0.026—0.035, crass. 0.014—0.015 mm“. Specimina nova-

granatensia, a Nyl. ad eandem speciem ducta, thallo leviter verruculoso, isabellino- et stramineo-variegato, opaco, KHO rubricoso-rufescente, et vertice perithecii tenuissime subvelato, sporis long. 0.026—0.033, crass. 0.011—0.014 mm instructa, ad speciem autonomam (*Pyrenulam isabellinam* Vain.) pertinent. In *Pyrenula mastophoriza* (Nyl., Lich. Andam. p. 21), item his affini, thallus crebre verruculoso-inaequalis, apothecia minora, vertice angustius denudato, sporae long. 0.012—0.015, crass. 0.00.7—0.008 mm.

Luzon, Subprov. Benguet, Pauai, alt. circ. 2100 m, *Bur. Sci. 8554 McGregor.* Ad corticem arboris.

26. **P. porinella** Vain. sp. nov.

Thallus epiphloeodes, sat crassus, irregulariter et verrucoso-rugosus, partim subareolato-diffractus, glaucescenti-stramineus, parum nitidus, KHO non reagens, hypothallo nigricante partim limitatus. Apothecia sparsa, thallo immersa, demum tuberculas plus minusve distinctas, irregulares, verrucoso-inaequalis aut irregulariter rugosas, strato thallino sat crasso omnino obductas aut interdum vertice perithecii demum anguste (circ. 0.15 mm lato) denudato nigricanteque. Perithecium globosum, lat. 0.8 mm, fuscofuligineum, integrum, vertice haud impresso, margine ostiolari haud prominente, ostiolo minuto. Nucleus albidus, haud resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, monostichae, fumoso-obscuratae, fusiformi-oblongae, apicibus obtusis, 3-septatae, loculis sat aequalibus, long. 0.020—0.023, crass. 0.010—0.011 mm, membrana haud gelatinosa. — Facie externa, thallo et verrucis inaequalibus et apotheciis majoribus a *P. porinoide* Ach. bene differt.

Luzon, Subprov. Bataan, Mons Mariveles, *Merrill 6271.* Ad corticem arboris.

27. **P. mastospora** Vain. sp. nov.

Thallus epiphloeodes, sat tenuis, laevigatus, isabellino- aut subcinereo- aut albido-pallescens aut sordide vel glaucescenti-albicans, leviter nitidus, linea hypothallina nigricante partim limitatus. Apothecia sat crebra, verrucas formantia 1—0.7 mm latas, hemisphaericas, primum cinereo-nigricantia et strato thallode tenuissimo omnino obducta, demum omnino denudata atraque, leviter nitida, margine

ostiolari haud aut parum prominente, ostiolo demum mediocri aut minutissimo, saepe puncto albido indicato. Perithecium fusco-fuligineum, integrum, depresso-subglobosum. Nucleus sordide albidus, resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, monostichae, fumoso-olivaceae, ellipsoideae, apicibus rotundatis, demum verrucula apicali parvulo instructis, 3-septatae, loculis apicalibus multo minoribus, long. 0.015—0.020, crass. 0.007—0.012 mm, raro (in n. 8604 et 9080) long. 0.022—0.026, crass. 0.011—0.014 mm, membrana haud gelatinosa. — Analoga *P. pachysporae* Vain., quae perithecio hemisphaerico et sporis crassioribus ab ea differt. *A. P. nitida* Ach. et *P. laevigata* Pers. apotheciis majoribus distinguitur.

Luzon, Subprov. Ilocos Norte, mons Piao, alt. 1100 m, *For. Bur. 13974 a, M. L. Merritt* et *F. W. Darling*, ad *Phyllanthum dumosum Robins.*; Subprov. Benguet, *Merrill 7969, 7995*, Pauai, alt. circ. 2100 m, *Bur. Sci. 8604 McGregor*, prope Baguio, *Bur. Sci. 14069 Robinson*; Subprov. Laguna, *Robinson 9705* pr. p. Polillo, *Bur. Sci. 9080 Robinson*. Mindanao, Distr. Davao, mons Apo, alt. 6000 ped., *Copeland 1094*. Ad corticem arborum. — N. *8604* et *9080* ad f. **evolutiorem** Vain., sporis majoribus instructam, pertinent.

28. **P. subglabriuscula** Vain. sp. nov.

Thallus epiphloeodes, tenuis, laevigatus, glauco-cinerascens, parum nitidus, hypothallo nigricante partim limitatus. Apothecia sparsa, verrucas formantia 1.2—0.6 mm latas, hemisphaericas, atras, nudas, leviter nitidas aut basin versus impure nigras et tenuissime subvelatas, margine ostiolari haud prominente, ostiolo minuto, saepe puncto albido indicato. Perithecium fuligineum, integrum, subglobosum. Nucleus albidus, resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, distichae, fumoso-obscuratae aut pallidae, ellipsoideae oblongaeve, apicibus rotundatis, 3-septatae, loculis fere aequalibus aut apicalibus paullo minoribus, long. 0.015—0.018, crass. 0.007—0.010 mm, membrana haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15079*. Ad corticem arboris n. 15074.

29. **P. limayensis** Vain. sp. nov.

Thallus epiphloeodes, tenuis, laevigatus, cinereo-glaucescens, parum nitidus. Apothecia partim crebra, verrucas formantia 0.6—

0.5 mm latas, hemisphaericas, impure nigricantes, opacas, tenuissime subvelatas, margine ostiolari levissime prominente, mamellam angustissimam nigram formante, annulo obscure cinerascente cincto, ostiolo inconspicuo. Perithecium depresso-subglobosum. Nucleus sordide albicans, resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, distichae, fusiformes, apicibus obtusis, 3-septatae, loculis sat aequalibus, olivaceae, long. 0.017—0.020, crass. 0.007 mm, membrana haud gelatinosa.

Luzon, Subprov. Bataan, Limay, *Bur. Sci. 6167 Robinson.* Ad corticem arboris.

30. **P. alboostiolata** Vain. sp. nov.

Thallus epiphloeodes, tenuissimus, subdispersus, albidus, opacus, hypothallo indistincto. Apothecia sat crebra, verrucas formantia 0.6—0.5 mm latas, hemisphaericas, atras, leviter nitidas, nudas, margine ostiolari haud prominente, ostiolo 0.2—0.15 mm lato, puncto albido, leviter impresso indicato. Perithecium fuscofuligineum, integrum, subglobosum. Nucleus albidus, haud resinoso-guttulosus. Paraphyses simplices. Sporae 8:nae, distichae aut monostichae, fumoso-nigricantes, ellipsoideae, apicibus rotundatis, verrucula apicali minutissima instructis, 3-septatae, loculis apicalibus minoribus, long. 0.012—0.015, crass. 0.008—0.010 mm, membrana haud gelatinosa.

Luzon, Subprov. Tayabas, Atimonan, *Merrill 3990* pr. p. Ad corticem *Cocoës nuciferae.*

31. **P. tristissima** Vain. sp. nov.

Thallus epiphloeodes, modice incrassatus, continuus, leviter inaequalis aut sat laevigatus, olivaceo-fuscescenti- et pallido-glaucescenti-variegatus, subverniceus, leviter nitidus. Apothecia crebra et partim 2 (—3—4) confluentia, thallo substratoque immersa, demum leviter aut plus minusve emergentia (morbosa vetustave semiemersa) et verrucas formantia depressas vel depresso-hemisphaericas, 0.5—0.7 (—0.7) mm latas, nigras, denudatas, opacas, margine ostiolari impresso, fossam 0.2—0.4 mm latam, infundibuliformem formante, puncto albido 0.3—0.15 mm lato ostiolum indicante. Perithecium

globosum, integrum, fusco-fuligineum, basi intus partim rubescens. Nucleus albidus, haud resinoso-guttulosus. Sporae fumoso-obscuratae, ellipsoideae, apicibus rotundatis, verrucula apicali parvulo instructis, 3-septatae, loculis apicalibus minoribus, long. 0.019—0.020, crass. 0.011 mm, membrana haud gelatinosa.

Ins. Comiran in Mari Suluensi. *Merrill 7163.* Ad corticem arboris.

32. **P. aspisteoides** Vain. sp. nov.

Thallus epiphloeodes, tenuis, continuus, laevigatus, albus, opacus, hypothallo indistincto. Apothecia numerosa crebraque, thallo substratoque immersa, dein mox emergentia demumque fere semi-emersa et verrucas formantia 0.25—0.35 mm latas, depressas aut demum fere hemisphaericas, nigras, denudatas, opacas, margine ostiolari haud aut levissime prominente, ostiolo minutissimo, puncto albo saepe indicato. Perithecium globosum, integrum, fuligineum. Nucleus albidus. Paraphyses simplices. Asci cylindrici aut ventricosi, membrana leviter gelatinoso-incrassata. Sporae 8:nae, distichae aut monostichae, olivaceae aut pallidae, ellipsoideae, apicibus obtusis aut rotundatis, 3-septatae, loculis lenticularibus, sat aequalibus aut apicalibus minoribus, long. 0.012—0.015, crass. 0.006—0.008 mm, membrana haud gelatinosa.

Negros, Canlaon Volcano, alt. 5000 ped., *Merrill 6872.* Ad corticem arboris.

33. **P. guimarana** Vain. sp. nov.

Thallus epiphloeodes, tenuis, continuus, laevigatus, albus aut partim fuscescenti-obscuratus, opacus, hypothallo indistincto. Apothecia crebra, thallo substratoque semi-immersa, verrucas formantia 0.3—0.2 mm latas, mamillatas aut hemisphaericas, nigras, denudatas, opacas, margine ostiolari haud aut saepe conoideo-prominente, ostiolo minutissimo, parum conspicuo. Perithecium fusco-fuligineum, globosum, integrum. Nucleus albidus. Paraphyses simplices. Asci cylindrici aut leviter ventricosi. Sporae 8:nae, subdistichae aut monostichae, pallidae aut dilute fuscescentes, oblongae, apicibus rotundatis aut rarius altero apice obtuso, 3-septatae, loculis lenticula-

ribus, apicalibus minoribus, long. 0.010—0.013, crass. 0.004—0.0055 mm. — Habitu subsimilis est speciei praecedenti.

Ins. Guimaras, *Bur. Sci. 18015 Robinson.* Ad corticem *Mangiferae indicae.*

2. **Microthelia** (Koerb.) Müll. Arg.

Sect. 1. **Holothelia** Vain. Perithecium integrum. Gonidia ad Trentepohliam pertinentia. — In. sect. **Hemithelia** Vain. perithecium dimidiatum.

1. **M. palavana** Vain. sp. nov.

Thallus epiphloeodes, tenuissimus, subcontinuus aut dispersus, laevigatus, albus, opacus, aut evanescens, hypothallo indistincto. Apothecia partim crebra, partim etiam (2—3) confluentia, semiimmersa, verrucas formantia hemisphaericas, 0.25—0.3 (—0.4 mm latas, atras, opacas, nudas. Perithecium fuligineum, integrum, subglobosum, margine ostiolari haud prominente, ostiolo conspicuo, saepe albido. Nucleus albidus, jodo non reagens. Paraphyses parce ramoso-connexae, p. p. simplices. Asci cylindrici, membrana modice incrassata. Sporae 8:nae, monostichae, diu decolores, demum olivaceo-pallidae aut plus minusve obscuratae, fusiformi-oblongae aut ovoideo-oblongae, apicibus obtusis, 1-septatae, loculis aeque longis, medio haud constrictae, long. 0.017—0.023, crass. 0.005—0.007 mm, membrana tenui, haud gelatinosa. Gonidia ad Trentepohliam pertinentia, cellulis concatenatis.

Palawan, Taytay, *Merrill 9036.* Ad corticem *Sonneratiae.*

3. **Thelidiopsis** Vain. gen. nov.

Sporae oblongae, majusculae, obscuratae, 1-septatae, endosporio haud incrassato. Perithecium fuligineum. Paraphyses simplices, membrana gelatinosa. Gonidia pleurococcoidea, globosa. A *Microthelia* sporis majusculis et paraphysibus gelatinosis differt.

1. **Th. Robinsonii** Vain. sp. nov.

Thallus sat tenuis aut modice incrassatus, continuus, laevigatus, cinerascens aut sordide albicans, parum nitidus, hypothallo haud bene distincto. Apothecia partim sat crebra, thallo semiimmersa, verrucas formantia hemisphaericas, 0.25—0.4 mm latas, amphithecio thallino, thallo concolore obductas, vertice demum plus minusve

late denudato, nigricante aut impure nigricante, margine ostiolari haud prominente, ostiolo minuto aut inconspicuo. Perithecium globosum, in lamina tenui fuscofuligineum, integrum. Nucleus albidus, modice resinoso-guttulosus, jodo dilutissime caerulescens, dein dilute vinose rubens. Paraphyses simplices, sat crebre septatae, tubulis 0.001 mm crassis, membranis gelatinosis, bene incrassatis. Asci ventricosi, long. circ. 0.130, crass. 0.030 mm, membrana molli. Sporae 8:nae, distichae, olivaceae, oblongae, apicibus obtusis aut rotundatis, 1-septatae et pr. p. simplices, long. 0.032—0.036, crass. 0.010—0.013 mm, membrana sat tenui, haud gelatinosa. Facie externa *Verrucariam aethiobolam* in memoriam revocans. Gonidia pleurococcoidea, globosa, diam. 0.006—0.010 mm, simplicia aut 2—4-cellulosa. Forsan rectius ad subtribum *Phaeophragmiarum* pertinet et tunc solus lichen *Tichotheciis* affinis, sed paraphysibus haud diffluxis, quamquam membrana gelatinoso-incrassata instructis, ab iis differt.

Panay, Subprov. Iloilo, alt. 460 m, *Bur. Sci. 18121 Robinson.* Ad saxa arenaria.

Didymosphaeria Sacc.

Genus ad fungos pertinens, inter lichenes *Microtheliae* (Koerb.) proxima, tantum defectu gonidiorum ab ea differens.

1. **D. palaquii** Vain. sp. nov.

Thallus macula albidopallida indicatus, linea hypothallina nigricante limitatus. Apothecia sparsa, verrucas depresse conoideo-hemisphaericas formantia, 1—0.6 mm lata, atra, nuda, opaca. Perithecium fuligineum, integrum, basi applanatum, margine ostiolari haud aut parum prominente, ostiolo circ. 0.15 mm lato, albido. Nucleus sordidus, jodo non reagens. Paraphyses sat numerosae, crass. 0.0008 mm, apices versus ramoso-connexae, ceterum simplices. Asci clavati aut subcylindri, long. 0.160, crass. 0.020—0.024 mm, apicem versus membrana leviter incrassata. Sporae 8:nae, distichae, fumoso-nigricantes, ovoideae, altero apice rotundato, altero sat obtuso aut sat acuto, 1-septatae, loculo crassiore etiam paullo longiore, bene constrictae, long. 0.019—0.021, crass. 0.010—0.012 mm, membrana sat tenui, strato gelatinoso tenui induta.

Mindanao, Subprov. Zamboanga, *Merrill 5006.* Ad corticem *Palaquii oberniani.*

2. **D. philippina** Vain. sp. nov.

Thallus macula subalbida indicatus, linea hypothallina fuscescente limitatus. Apothecia sparsa, verrucas formantia hemisphaericas, 0.4—0.5 mm latas, atras,

nudas, opacas. Perithecium fuligineum, basi valde tenue applanatumque, margine ostiolari leviter prominente, angusto, ostiolo circ. 0.1 mm lato, interdum albido. Nucleus albidus, jodo non reagens. Paraphyses crass. 0.001 mm, tantum simplices visae. Sporae 8:nae, distichae, ovoideo-oblongae, altero apice rotundato, altero obtuso-rotundato, 1-septatae, loculis aeque longis, parum constrictae, fuscescentes, long. 0.021—0.024, crass. 0.007—0.010 mm, membrana intus modice incrassata, strato gelatinoso nullo indutae.

Luzon, Subprov. Nueva Vizcaya, Dupax, *Bur. Sci. 14308 McGregor.* Ad corticem arboris.

3. **D. coccifera** Vain. sp. nov.

Thallus macula albido-pallida, parce etiam subrosella indicatus, linea hypothallina angustissima, obscurata limitatus, pycnoconidangiis minutissimis crebre ad ambitum thalli instructus. Apothecia sparsa, verrucas formantia depresse hemisphaericas aut depresse subconoideo-hemisphaericas, 0.8—0.6 mm latas, atras, nudas, opacas. Perithecium fuligineum, dimidiatum, hypothecio coccineo, KHO purpureo, margine ostiolari haud aut leviter prominente, ostiolo 0.2—0.15 mm lato, nigricante aut rubricoso, impresso. Nucleus albidus aut partim dilute coccineus, jodo non reagens. Paraphyses ramoso-connexae. Asci clavati, in apice membrana incrassata. Sporae 8:nae, distichae, fumoso-nigricantes, ovoideae aut ellipsoideae, apicibus rotundatis aut altero apice obtuso, 1-septatae, loculis aeque longis aut cellula crassiore etiam longiore, vulgo leviter constrictae, long. 0.016—0.020, crass. 0.007—0.009 mm, in statu juvenili membrana gelatinoso-incrassata.

Luzon, Subprov. Laguna, mons Banajao, *Bur. Sci. 9828 Robinson.* Ad corticem arboris.

Var. **cinereorubricosa** Vain.

Thallus cinereorubricosus et partim albido-cinerascenti-variegatus, linea hypothallina obscurata partim limitatus. Apothecia sparsa aut sat crebra, parce etiam confluentia, verrucas formantia 0.6—0.5 mm latas, hemisphaericas aut conoideo-hemisphaericas, atras, nudas, opacas. Perithecium fuligineum, dimidiatum, hypothecio rubescente, margine ostiolari haud aut leviter prominente, ostiolo 0.1 mm lato aut minore, nigricante aut cinerascente, vulgo leviter impresso. Nucleus albidus. Asci cylindrico-clavati. Sporae 8:nae, distichae, nigricantes, ovoideae, altero apice rotundato, altero obtuso, 1-septatae, loculo crassiore saepe etiam paullo longiore, long. 0.015—0.017, crass. 0.007 mm, membrana modice incrassata, haud gelatinosa. Forsan est autonoma species, at *D. cocciferae* proxime affinis.

Polillo, *Bur. Sci. 9090 Robinson.* Ad corticem arboris.

Subtrib. 5. **Haplosporae.**

1. **Haplopyrenula** Müll. Arg.

1. **H. philippina** Vain. sp. nov.

Thallus tenuis, subcontinuus, laevigatus, cinereo-glaucescens, parum nitidus, hypothallo indistincto. Apothecia subaggregata crebrave, verrucas formantia 0.090—0.110 mm latas, hemisphaericas, strato thallino, thallo concolore obductas, vertice demum plus minusve late denudatas. Perithecium fuligineum. Paraphyses parce evolutae, breves, crass. 0.001 mm, tantum simplices visae. Asci long. 0.050, crass. 0.010 mm, membrana gelatinosa, facile dissoluta. Sporae 8:nae, distichae, olivaceo-fuscescentes, oblongae aut ovoideo-oblongae, apicibus rotundatis, simplices, long. 0.016—0.018, crass. 0.005—0.006 mm, apicem superiorem versus membrana stria transversa instructa. Gonidia pleurococcoidea, diam. 0.005—0.006 mm.

Polillo, *Robinson*. Supra folia arboris.

2. **H. nuda** Vain. sp. nov.

Thallus tenuissimus, dispersus, laevigatus, glaucescens, parum nitidus, hypothallo indistincto. Apothecia sat crebra, verrucas formantia 0.130 mm latos, hemisphaericas, atras, nudas, leviter nitidas. Perithecium sub microscopio fuscofuligineum, margine ostiolari haud aut parum prominente. Paraphyses haud evolutae. Asci long. 0.040—0.044, crass. 0.014—0.016 mm, apice bene gelatinoso-incrassata. Sporae 8:nae, polystichae, olivaceo-fuscescentes, ellipsoideo-oblongae aut ovoideo-ellipsoideae, apicibus rotundatis, simplices, long. 0.010—0.012, crass. 0.005 mm. Gonidia pleurococcoidea, tantum simplicia visa, diam. 0.006—0.008 mm.

Luzon, Subprov. Tayabas, prope viam Siniloan, *Robinson*. Supra folia arboris.

3. **H. aggregata** Vain. sp. nov.

Thallus evanescens, passim conspicuus, tenuissimus, dispersus, subcinerascens, parum nitidus, laevigatus, hypothallo indistincto. Apothecia saepe (6—3) subaggregata, verrucas formantia hemisphaericas, circ. 0.090 mm latas, atras, nudas, parum nitidas. Perithecium fuligineum, dimidiatum, margine ostiolari haud aut parum prominente, ostiolo minutissimo. Paraphyses long. circ. 0.026, crass.

0.001 mm, tantum simplices visae. Asci clavati, long. 0.036—0.042, crass. 0.010—0.013 mm, in apice membrana bene incrassata. Sporae 8:nae, distichae, olivaceae, oblongo-ovoideae, altero apice obtuso, altero rotundato, long. 0.013—0.017, crass. 0.003—0.005 mm, membrana tenuiore in apice superiore crassioreque usque ad striam transversam. Gonidia non visa.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Supra folia annua.

4. **H. gracilior** Müll. Arg. Lich. Beitr. (1883) n. 609.

Proxima *H. philippinae*, at secundum descriptionem citatam apotheciis nudis vel obsolete thallino-velatis ab ea differens.

In foliis *Laurineae* cujusdam in insula Borneo, in specim. *Beccarii* n. 1545 sec. Müll. Arg.

Subtrib. 6. **Glaenoblastiae.**

1. **Thelenella** (Nyl.) Vain.

Subg. 1. **Euthelenella** Vain.

Sect. I. **Clathroporina** (Müll. Arg.) Vain.

1. **Th. verruculosa** Vain. sp. nov.

Thallus modice incrassatus, continuus, verruculis subhemisphaericis aut depresso-hemisphaericis, 0.1—0.15 mm latis crebre inspersus, cinereo-glaucescens, sat opacus, jodo non reagens, hypothallo indistincto. Gonidia ad Trentepohliam pertinentia, cellulis anguloso-subglobosis, concatenatis, diam. 0.013—0.008 mm, membranis modice incrassatis. Apothecia sparsa aut rarius 2 confluentia, elevata, hemisphaerica, diam. 0.6 (0.5—0.7) mm, basi sat praerupta aut levissime dilatata, haud constricta, thallo concoloria, sublaevigata aut levissime verruculosa, vertice convexo aut anguste impresso, ostiolo demum nigricante aut fuscescente, punctiformi, 0.15 mm lato, clauso. Perithecium albidum aut pallidum, amphithecio thallino totum obductum. Nucleus albidus, haud guttulosus, jodo reagens. Paraphyses simplices, crass. 0.001 mm, gelatinam abundantem percurrentes. Asci ventricosi. Sporae 8:nae, distichae, decolores, fusiformi-oblongae, apicibus obtusis, murales, cellulis numerosis, seriebus cellularum transversis circ. 9—11, jodo non reagentes, membrana

modice gelatinoso-incrassata, long. 0.064—0.052, crass. 0.024—0.016 mm.

Luzon, Subprov. Nueva Vizcaya, Dupax, *Bur. Sci. 14310 McGregor.* Ad corticem arboris.

Sect. II. **Microglaena** (Koerb.) Vain.

Subsect. 1. **Polyblastiopsis** (Zahlbr.) Vain.

2. **Th. cinereo-glauca** Vain. sp. nov.

Thallus modice incrassatus, glaucescens aut partim straminеo-glaucescens, verrucoso-inaequalis, opacus, continuus, partim hypothallo nigricante fuscescenteve anguste limitatus. Apothecia dispersa aut sat crebra, simplicia aut raro 2 confluentia, verrucas formantia 1.5—0.5 mm latas, elevato-hemisphaericas vel mammaeformes, basi praeruptas, strato thallino thallo concolore obductas, leviter verruculosas aut sat laevigatas, vertice convexo, saepe demum plus minusve late denudato fuscescenteque, ostiolo circ. 0.2 mm lato, cinerascente, haud foveolato. Perithecium globosum, fuligineum, integrum, in apice bene incrassatum. Nucleus albidus, jodo non reagens. Paraphyses ramoso-connexae, tubulis 0.0007 mm crassis, gelatinam hymenialem abundantem percurrentibus. Sporae 8:nae aut 4:nae, polystichae, decolores, oblongae, murales, cellulis numerosissimis, seriebus cellularum transversis circ. 24—26, membrana sat tenui, haud gelatinosa, jodo lutescentes, long. 0.162—0.200 mm. Gonidia ad Trentepohliam pertinentia, cellulis irregularibus, diam. 0.008—0.005 mm, concatenatis, sat leptodermaticis. — Affinis est *Th. interruptae* Vain. Lich. Fl. Koh Chang. 381.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14402.* Ad corticem arboris n. 14393.

3. **Th. endochrysoides** Vain. sp. nov.

Thallus modice incrassatus aut sat tenuis, leviter verruculoso-inaequalis, olivaceus, nitidus, continuus, intus fulvus et KHO violascens, linea hypothallina fuscescente limitatus. Apothecia dispersa, simplicia, verrucas formantia 0.8—0.6 mm latas, leviter prominentes aut subhemisphaericas, basin versus sensim dilatatas, strato thallino, thallo concolore obductas, laevigatas, margine ostiolari an-

guste fuscescente, saepe leviter prominente, ostiolo minutissimo, haud foveolato. Perithecium subglobosum, albidum, apice anguste rufescens. Nucleus albidus, jodo non reagens. Paraphyses crass. 0.001 mm, basi parce ramoso-connexae, ceterum simplices. Sporae 8:nae, distichae, decolores, fusiformes, altero apice sat obtuso, altero acuto, murales, septis transversis valde numerosis, long. circ. 0.102, crass. 0.009—0.012 mm, membrana haud gelatinosa. Asci fusiformes, long. circ. 0.160, crass. 0.030 mm, membrana tenui. Gonidia ad Trentepohliam pertinentia, cellulis saepe concatenatis, subglobosis aut ellipsoideis aut raro oblongis, 0.007—0.010 mm crassis. — Analoga *Th.* (*Clathroporinae*) *enteroxanthae* (Knight) et *Th. perfragili* (Nyl.).

Panay, Prov. Capiz, Libacao, *Bur. Sci. 35827 A. Martellino* et *G. Edaño*. Ad corticem arboris.

Subtrib. 7. **Hyalophragmiae.**

1. **Pseudopyrenula** (Müll. Arg.) Vain.

Subg. 1. **Trypethelium** (Spreng.) Vain.

Ps. eluteriae (Spreng.) Vain. Étud. Lich. Brés. II (1890) p. 204.

Variatio pseudostromatibus extus olivaceo-pallescentibus, demum p. p. fuscescentibus, haud pruinosis, intus fulvis et KHO rubescentibus, thallo stramineo-glaucescente pallescenteve, haud pruinoso. Sporae haud evolutae.

Annam, Nha-trang, *Robinson 1409, 1410*. Ad corticem arborum.

1. **Ps. ubianensis** Vain. sp. nov.

Thallus tenuissimus, macula straminea aut stramineo-pallescente indicatus, laevigatus, leviter nitidus, partim linea hypothallina nigricante limitatus. Pseudostromata sat crebra, rotundata aut difformia, saepe etiam confluentia, long. 0.5—4, lat. 0.5—1 mm, convexa, basi leviter dilatata aut sat praerupta, haud constricta, extus thallo concolora, intus alba, perithecia circ. 10—2 aut raro 1—25 continentia, verticibus denudatis, nigris, 0.3—0.2 mm latis, saepe leviter prominentibus. Perithecium lat. 0.25—0.35 mm, globosum, fuligineum, basi tenue. Nucleus albidus, haud guttulosus, jodo non reagens. Paraphyses ramoso-connexae, crass. 0.001 mm, gelatinam abundan-

tem percurrentes. Asci ventricosi. Sporae 8:nae, distichae, decolores, fusiformes, apicibus sat acutis aut sat obtusis, septis transversis 8—9, loculis lenticularibus, mediis paullo majoribus, saepe strato tenui gelatinoso indutae, jodo lutescentes, long. 0.030—0.032, crass. 0.008 mm. — Facie externa *Ps. duplicem* (Fée) in memoriam revocans.

Insula Ubian, *Merrill 5403* pr. p. Ad corticem arboris.

Subg. 2. **Heterothelium** Vain.

Sect. 1. **Polymeria** Müll. Arg.

2. **Ps. Ramosii** Vain. sp. nov.

Thallus modice incrassatus, minutissime impresso-punctatus, ceterum laevigatus, stramineus, sat opacus, hypothallo indistincto. Apothecia sparsa, thallo et substrato immersa, simplicia, recta, ostiola macula fuscescente, rotundata, 0.2—0.15 mm lata indicata. Perithecium globosum, lat. 0.4—0.6 mm, tenue, albidum, ad ostiolum fuscescens, ceterum extus strato fulvescente, cellulas substrati continente, obductum. Columella haud evoluta. Nucleus albidus, disco nullo. Paraphyses ad ostiolum et basin abundanter ramoso-connexae, ceterum simplices, increbre septatae, tubulis 0.001 mm crassis, gelatinam hymenialem abundantem percurrentes. Sporae solitariae, decolores, oblongae, septis transversis 13—16, loculis globoso- aut anguloso-lenticularibus, long. 0.266—0.360, crass. 0.040—0.068 mm, membrana incrassata, crass. 0.009—0.010 mm, stratis duobus distinctis, jodo bene violascentibus. Pycnoconidangia thallo immersa, simplicia, conceptaculo albido, globoso. Pycnoconidia cylindrica aut oblonga, recta, long. 0.007—0.003, crass. 0.001—0.0007 mm.

Luzon, Subprov. Rizal, *Bur. Sci. 13635 M. Ramos.* Ad corticem arboris.

3. **Ps. Elmeri** Vain. sp. nov.

Thallus sat tenuis, laevigatus, stramineo-glaucescens aut pallido-stramineus, opacus, hypothallo nigricante limitatus. Apothecia sparsa aut partim sat crebre subseriata, thallo et substrato immersa, vertice demum leviter prominente, simplicia, recta. Perithecium globosum, lat. 0.5—0.35 mm, tenue, fuligineum, vertice denudato, nigricante, demum leviter prominente et depresso-hemisphaerico.

Nucleus albidus, guttulosus, jodo non reagens. Paraphyses ramoso-connexae, crass. 0.001 mm, gelatinam abundantem percurrentes. Sporae 8:nae aut 4:nae, decolores, fusiformes, apicibus obtusis, septis transversis 16, loculis lenticularibus, long. 0.072—0.080, crass. 0.015—0.017 mm, jodo lutescentes, strato tenui gelatinoso indutae.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14655.* Ad corticem arboris n. 14650.

Sect. 2. **Hemithelium** Vain.

4. **Ps. pentameria** Vain. sp. nov.

Thallus tenuissimus, macula albido-pallescente indicatus, laevigatus, hypothallo nigricante partim limitatus. Apothecia solitaria, sparsa, verrucas conoideo-hemisphaericas, nigras formantia. Perithecium conoideo-hemisphaericum, lat. 0.4—0.3 mm, fuligineum, basi attenuato-productum, maculam 0.6—0.9 mm latam, orbicularem formans, nudum, dimidiatum, basi deficiens, vertice vulgo leviter conoideo-prominente. Nucleus hemisphaericus, albidus, guttulosus, jodo non reagens. Paraphyses crass. 0.001 mm, apicem versus increbre ramoso-connexae, gelatinam abundantem percurrentes. Asci ventricosi aut subclavati, long. 0.090, crass. 0.010 mm, membrana apice leviter incrassata. Sporae 8:nae, distichae, decolores, oblongae aut ovoideo-oblongae aut fusiformi-ovoideae, apicibus rotundatis aut altero apice attenuato et obtuso vel fere acuto, aut fusiformes apicibusque acutis, septis transversis 5 aut raro 6, leviter aut haud constrictae, loculis sat aequalibus, rotundato-sublenticularibus aut fere cylindricis, cellulis in KHO facile disjunctis, long. 0.023—0.029, crass. 0.007—0.009 mm, membrana modice incrassata, subgelatinosa.

Luzon, Subprov. Bataan, Limay, *Bur. Sci. 9623, Robinson.* Ad corticem arboris.

2. **Porina** (Ach.) Vain.

Sect. 1. **Rhaphidisegestria** Vain. Addit. Lich. Antill., 1915, p. 200. — Gonidia ad Trentepohliam pertinentia. Perithecium amphithecio thallino plus minus late obductum. Sporae aciculares aut bacillares. Corticolae.

1. **P. viridinigricans** Vain. sp. nov.

Thallus sat tenuis, continuus, laevigatus, virescenti-cinereo-nigricans, nitidus, hypothallo nigricante. Apothecia dispersa, ver-

rucas formantia subhemisphaericas, circ. 0.5—0.9 mm latas, basin versus sensim dilatatas, laevigatas, amphithecio thallino, thallo subconcolore obducta. Perithecium superne caeruleo-nigricans, vertice demum plus minus late denudato, margine ostiolari haud prominente, ostiolo demum leviter foveolato, mediocri. Paraphyses simplices, crass. 0.001—0.0008 mm. Sporae 8:nae, polystichae, aciculares, rectae, apicibus sat acutis aut obtusis, pluriseptatae, long. 0.060—0.064 aut longiores, crass. 0.0015—0.003 mm. Asci long. 0.074—0.086, crass. 0.006 mm, fusiformi-cylindrici, membrana tenui.

Panay, Subprov. Capiz, Libacao, *Bur. Sci. 35828 A. Martelino* et *G. Edaño.* Ad corticem arboris.

2. **P. aciculosa** Vain. sp. nov.

Thallus modice incrassatus, continuus, sat laevigatus aut vix distincte verruculoso-inaequalis, subcinereo- aut albido-glaucescens, opacus, isidiis destitutus, substrato arcte adnatus, linea hypothallina cinerascente partim limitatus. Apothecia crebra, verrucas formantia subhemisphaericas, 0.7—0.5 mm latas, basin versus sensim dilatatas, sat laevigatas, amphithecio thallino, thallo concolore obducta, vertice 0.1—0.3 mm lato nigricante, convexo, interdum levissime subumbonato, denudato. Perithecium globosum, in lamina tenui apice fusco-rubescens, latere fulvescens et basi pallidum albidumve. Nucleus albidus. Paraphyses simplices. Asci ventricosi, long. 0.070—0.080, crass. 0.010—0.012 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, aciculares, altero apice sensim attenuato, altero obtuso aut sat acuto, septis 13—15, long. 0.040—0.050, lat. 0.0035—0.004 mm, membrana sat tenui, haud gelatinosa, loculis cylindricis.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14813.* Ad corticem arboris n. 14806.

3. **P. diplotypa** Vain. sp. nov.

Thallus sat tenuis, subcontinuus, levissime subverruculoso-inaequalis aut sat laevigatus, cinereo-glaucescens, leviter nitidus, subtus albidus, substrato arcte adnatus, hypothallo indistincto. Apothecia sparsa aut partim sat crebra, verrucas formantia late conoideo-hemisphaericas, 0.4—0.3 mm latas, basin versus sensim dilatatas, sat

laevigatas, amphithecio thallino, thallo concolore obducta, mamilla ostiolari sordide aut pallido-rufescente, levissime prominente, circ. 0.1—0.05 mm lata, denudata. Perithecium vertice fulvo-rubescens, ceterum pallidum, KHO purpureum. Paraphyses simplices. Asci ventricosi, long. circ. 0.100, crass. 0.012 mm, in apice membrana leviter incrassata. Sporae 8:nae, aciculari-fusiformes, apicibus acutis, septis transversis 7—5, loculis cylindricis, aequalibus, long. 0.022—0.042, crass. 0.002—0.005 mm, decolores, leviter curvatae aut rectae, membrana tenui, haud gelatinosa. — Thallo subtus albido, arcte adnato et mamilla ostiolari denudata a *P. subdissipante* Vain. differt.

Mindanao, Subprov. Butuan, *Weber 1416* pr. p. Ad corticem arboris.

Sect. 2. **Segestria** (Fr.) Vain. Gonidia ad Trentepohliam pertinentia. Perithecium amphithecio thallino plus minus late obductum. Sporae fusiformes aut rarius oblongae. Corticolae aut saxicolae.

4. **P. gigantospora** Vain. sp. nov.

Thallus sat tenuis, continuus, crebre verruculoso-inaequalis, verruculis bene depressis, fere contiguis, glaucescens, nitidus, isidiis destitutus, substrato arcte adnatus, hypothallo nigricante cinctus. Apothecia sparsa, verrucas formantia hemisphaericas, 0.7 (—0.5) mm latas, latere praeruptas, parce verruculosas aut sat laevigatas, amphithecio thallino, thallo concolore obducta, vertice 0.4—0.3 mm lato nigricante, denudato ex amphithecio haud aut parum prominente. Perithecium globosum, in lamina tenui apice fusco-rubescens aut fuscescens, ceterum pallidum. Nucleus albidus. Asci ventricosi, long. circ. 0.180, crass. 0.050 mm, membrana tenui. Paraphyses simplices. Sporae 8:nae, subfusiformes, apicibus obtusis, decolores, septis 7, rarius 8—9, loculis cylindricis, sat aequalibus aut apicalibus brevioribus, long. 0.103—0.120, crass. 0.020—0.024 mm (strato gelatinoso computato), membrana gelatinosa, 0.003—0.004 mm crassa.

Luzon, Subprov. Benguet, Sablang, *Bur. Sci. 12787 Fénix.* Ad corticem arboris.

5. **P. polymera** Vain. sp. nov.

Thallus tenuis, subdispersus aut leviter interruptus, crebre subverruculoso-inaequalis, verruculis bene depressis, albido-glaucescens,

nitidus, substrato arcte adnatus, hypothallo nigro ad ambitum et in interstitiis thalli conspicuo. Apothecia sparsa, verrucas formantia hemisphaericas, 1.2—0.8 mm latas, latere subpraeruptas, parce subverruculosas aut sat laevigatas, amphithecio pallescente aut pallido-glaucescente, thallino obducta, vertice 0.3—0.8 mm lato denudato nigricanteque aut cinereo-fuscescente, nec prominente nec impresso, ostiolo minutissimo. Perithecium depresso-globosum, in lamina tenui apice fuscescens, ceterum fulvescens, basi deficiens. Nucleus albidus, haud guttulosus, jodo non reagens. Paraphyses simplices. Asci ventricosi. Sporae 8:nae, distichae, fusiformes, apicibus sat obtusis, decolores, septis transversis 11—9 (—6), loculis cylindricis, apicalibus saepe brevibus, long. 0.063—0.092, crass. 0.018—0.022 mm, membrana gelatinoso-incrassata, 0.003 mm crassa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15005*. Ad corticem arboris n. 15001.

6. **P. novemseptata** Vain. sp. nov.

Thallus sat tenuis, subdispersus aut varie interruptus, crebre verruculoso-inaequalis, verruculis bene depressis, levissime prominentibus, glaucescens, nitidus, substrato sat arcte adnatus, hypothallo nigro sat anguste interruptus. Apothecia sparsa, verrucas formantia depresso-subhemisphaericas, 1—0.5 mm latas, basin versus sensim dilatatas aut sat praeruptas, parce subverruculosas aut sat laevigatas, amphithecio thallino, thallo concolore obducta, vertice 0.3—0.2 mm lato denudato, fusco-nigricante, nec prominente nec impresso, ostiolo minutissimo. Perithecium in lamina tenui apice fusco-rubricosum, parte superiore lateris fulvescens, ceterum pallidum. Nucleus albidus, guttulis resinosis instructus. Paraphyses simplices. Asci ventricosi. Sporae 8:nae, distichae, decolores, fusiformes, apicibus obtusis, septis transversis 9—8 (—5), loculis cylindricis, apicalibus brevibus, duobus medianis majoribus, long. 0.062—0.072, crass. 0.014—0.018 mm, rectae aut obliquae, membrana gelatinoso-incrassata, crass. 0.004—0.003 mm. — Affinis speciei praecedenti.

Luzon, Subprov. Rizal, *Bur. Sci. 6781* pr. p., *Robinson*. Ad corticem arboris.

7. **P. decamera** Vain. sp. nov.

Thallus modice incrassatus, continuus, leviter subverruculoso-inaequalis, verruculis valde depressis, cinereo-glaucescens, nitidus, substrato demum laxe affixus, subtus nigricans, hypothallo nigricante. Apothecia sparsa, verrucas formantia hemisphaericas, 1.5—1.3 (—1) mm latas, latere vulgo sat praeruptas, parce levissimeque subverruculosas, amphithecio thallino, thallo concolore obducta, demum vertice 0.5—0.25 mm lato fusco-nigricante fuscescenteve, levissime aut parum prominente, ostiolo minuto aut fere mediocri. Perithecium subglobosum aut leviter depressum, superne fulvescens et apice vulgo fuscescens, basin versus pallidum, integrum. Nucleus albidus. Paraphyses simplices. Asci ventricosi, crass. 0.026 mm. Sporae 8:nae, distichae, decolores, fusiformes, apicibus sat obtusis, 10—8-loculares (septis transversis 9—7), loculis cylindricis, sat aequalibus aut loculis duobus brevioribus in apicibus ambobus, long. 0.072—0.082, crass. 0.015—0.018 mm, membrana modice gelatinoso-incrassata. — Speciei praecedenti proxime affinis.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 15008*. Ad corticem arboris n. 15001.

8. **P. sphalerospora** Vain. sp. nov.

Thallus sat tenuis, subdispersus, sat laevigatus, cinerascenti-olivaceus, nitidus, hypothallo nigricante interruptus limitatusque. Apothecia dispersa, verrucas formantia subhemisphaericas, circ. 0.4—0.6 mm latas, basin versus leviter dilatatas, laevigatas, amphithecio thallino, thallo subconcolore obducta aut demum vertice plus minus denudata. Perithecium apice fuscescens, ceterum pallidum, KHO violascens, margine ostiolari haud prominente, ostiolo parvo, nigricante, haud foveolato. Paraphyses simplices. Sporae 8:nae, distichae, decolores, valde variabiles, fusiformes aut oblongae aut elongato-fusiformes, apicibus rotundatis aut obtusis aut acutis, 8—3-septatae (unam sporam 9-septatam vidi), loculis sat aequalibus aut vario modo inaequalibus, long. 0.025—0.049, crass. 0.006—0.008 mm, membrana haud gelatinosa. — Huic proximae sunt *P. in-*

terstes (Nyl.) et *P. tetracera* (Ach.) Müll. Arg. (haud Nyl.), quae sporis 7-septatis ab ea differunt.

Luzon, Subprov. Apayao, *Bur. Sci. 28342 Fénix.* Ad corticem *Caryotae.*

9. **P. subdissipans** Vain. sp. nov.

Thallus sat tenuis, sat laevigatus aut leviter inaequalis, cinereo-glaucescens, nitidus, subcontinuus, sat facile desquamescens, subtus nigricans, hypothallo indistincto. Apothecia dispersa, verrucas formantia parum prominentes, circ. 0.8—0.9 mm latas, basin versus sensim dilatatas, amphithecio thallino, thallo concolore obductas, laevigatas. Perithecium pallidum, margine ostiolari haud prominente, ostiolo parvo. Paraphyses simplices. Asci subfusiformes. Sporae 8:nae, distichae, decolores, oblongae, vulgo leviter subcurvatae, apicibus obtusis, 7-septatae, loculis mediis reliquis longioribus, long. circ. 0.062, crass. 0.018 mm, membrana leviter incrassata, haud gelatinosa.

Panay, Subprov. Capiz, Libacao, *Bur. Sci. 35825 A. Martelino* et *G. Edaño.* Ad corticem arboris.

10. **P. acuta** Vain. sp. nov.

Thallus sat tenuis, subcontinuus, leviter subverruculoso-rugulosus aut sat laevigatus, cinereo-glaucescens, leviter nitidus, substrato arcte adnatus. Apothecia sat crebra, verrucas formantia hemisphaericas, 0.6—0.4 mm latas, latere sat praeruptas aut rarius basin versus sensim dilatatas, leviter subverruculoso-inaequales aut sat laevigatas, amphithecio thallino, thallo concolore obducta, mamilla ostiolari denudata, circ. 0.15 mm lata, fuscescente, leviter aut parum prominente, ostiolo minutissimo. Perithecium in lamina tenui vertice fuscorubricosum aut fulvescens, ceterum pallidum. Nucleus albidus, resinoso-guttulosus. Paraphyses simplices. Asci ventricosi, membrana tenui. Sporae 8:nae, distichae aut polystichae, decolores, fusiformes, apicibus acutis, septis transversis 7, loculis cylindricis, sat aequalibus, long. 0.030—0.046, crass. 0.006—0.007 mm, membrana tenui, haud gelatinosa.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14813* pr. p. Ad corticem arboris n. 14806.

Sect. 3. **Rhaphidiastrum** Vain. Gonidia ad Phycopeltidem aut Heterothallum pertinentia. Perithecium amphithecio thallino plus minus late obductum. Sporae bacillares aut aciculares aut subfusiformi-elongatae. Foliicolae.

11. **P. pandanorum** Vain. sp. nov.

Thallus tenuis, continuus, gibbis minutissimis sat increbre inspersus, ceterum laevigatus, glaucescens vel subcinereo-glaucescens, opacus, substrato arcte adnatus, hypothallo indistincto. Apothecia sparsa, verrucas formantia hemisphaericas, 0.5 (—0.4) mm latas, lateribus haud valde praeruptas, parce gibbosa, amphithecio thallino tenuissimo, thallo concolore obducta, verticem pallidum versus sensim lateque denudata, margine ostiolari minutissimo, sordide fulvescente, haud aut parum prominente, ostiolo indistincto. Perithecium in lamina tenui vertice lutescens aut fulvo-lutescens, ceterum albidum. Nucleus albidus, haud resinoso-oleosus. Paraphyses simplices. Asci long. circ. 0.100, crass. 0.015 mm. Sporae 8:nae, polystichae, decolores, aciculares, altero apice sensim attenuato subacutoque, altero rotundato obtusove, septis transversis 10, loculis cylindricis, aequalibus aut duobus vel loculo uno reliquis longioribus, long. 0.042—0.046, crass. 0.0035—0.005 mm, rectae, membrana tenui, haud gelatinosa. Gonidia phycopeltidea, membranacea, cellulis rotundatis aut oblongis ellipsoideisve aut difformibus, series irregulares formantibus, latere connatis. — Habitu P. epiphyllam Fée in memoriam revocans.

Luzon, Subprov. Sorsogon, Irosin, *Elmer 14915*. In lamina superiore folii arboris n. 14914.

12. **P. insperata** Müll. Arg. Lich. Beitr. (Fl. 1883) n. 654 (sec. specim. orig. in Mus. Fenn.).

Thallus tenuissimus, continuus, laevigatus, apotheciis vel pycnoconidangiis minutissimis juvenilibusque partim sat crebre inspersus, subcinereo-glaucescens, leviter nitidus, substrato arcte adnatus, hypothallo indistincto. Apothecia sat crebra, verruculas formantia subconoideo-hemisphaericas, 0.3—0.25 mm latas, lateribus haud valde praeruptas aut basin versus sat sensim dilatatas, laevigatas, amphithecio thallino, thallo concolore, tenuissimo obducta, margine ostio-

lari minutissimo, circ. 0.1 mm lato, leviter prominente, denudato, rufescente aut testaceo-rufescente. Perithecium in lamina tenui superne fulvescenti-pallidum, summo apice anguste subpurpureo, ceterum pallidum. Nucleus albidus, resinoso-guttulosus, jodo non reagens. Paraphyses simplices, crass. 0.0005 mm. Asci fusiformes, long. circ. 0.090, crass. 0.012 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, bacillares, apicibus obtusis, septis transversis 7, tenuibus, loculis cylindricis, aequalibus, rectae aut leviter curvatae, long. 0.043—0.047, crass. 0.0025 mm, membrana tenui, haud gelatinosa. Gonidia cellulis anguloso-subglobosis aut subellipsoideis aut difformibus, diam. 0.005—0.008 mm, irregulariter dispositis, membranam formantibus et latere connatis aut partim discretis aut partim series irregulares ramosas formantibus. — Sporis differt a *P. epiphylla* Fée var. *praestante* (Nyl.), cui habitu omnino similis est.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*. Supra folia coriacea arboris.

13. **P. applanata** Vain. sp. nov.

Thallus tenuis, dispersus, laevigatus, cinereo-glaucescens, opacus, vulgo desquamescens et demum evanescens, hypothallo indistincto. Apothecia sparsa, haud numerosa, verruculas formantia bene depressas, basin versus sensim dilatatas, latere late productas et maculas rotundatas, 1.2—0.8 mm latas, pallidas, opacas formantes, subthallodice obducta, laevigata, margine ostiolari minuto, circ. 0.15—0.1 mm lato, leviter prominente, rufescente, denudato, ostiolo interdum conspicuo, minutissimo, puncto albido indicato (anguloso-rotundato, circ. 0.030 mm lato microscopio viso). Perithecium dimidiatum basique deficiens, vertice fulvescens aut olivaceo-fulvescens, parte inferiore cyanescenti-fuscescens aut fusco-fuligineum. Nucleus albidus, diam. circ. 0.350 mm, jodo non reagens. Paraphyses numerosae, crass. 0.0007 mm, simplices, increbre septatae. Asci cylindrico-fusiformes, long. circ. 0.090, crass. 0.012 mm, membrana tenui. Sporae 8:nae, cylindricae, apicibus obtusis, rectae aut leviter curvatae,[1] septis transversis 9—7 (—4), loculis cylindricis, aequalibus, long. 0.038—0.058, crass. 0.0045—0.006 mm, membrana tenui,

haud gelatinosa. Thallus hyphis 0.0017 mm crassis, decoloribus. Gonidia tantum chlorophyllo destituta visa, forsan ad Heterothallum pertinentia, cellulis oblongis, 0.003 mm latis, in fila partim contigua, partim discreta concatenatis, membranam laceratam formantibus. — Facie externa ab aliis *Porinis* differt, at non sit fungus. Analoga *P. limbulatae* (Krempelh.), quae etiam sporis 3-septatis ab ea differt.

Samar, prope flumen Catubig, *Bur. Sci. 24929* pr. p. *Edaño*. Polillo, *Robinson*. Luzon, Subprov. Tayabas, mons Binuang, flumen Anoling et prope viam Siniloan, *Robinson*. Mindanao, Subprov. Butuan, *Weber 1432* pr. p., *1433* pr. p. Mindoro, prope flumen Alag. 500 ped. s. m., *Merrill*. Supra folia *Palmarum*, *Pandanorum* aliarumque arborum locis numerosis, at parce collecta.

14. **P. flocculosa** Vain. sp. nov.

Thallus tenuis, continuus, saepe etiam maculas latas formans, crebre aut increbre minutissime gibbosus et circa apothecia saepe floccosus, glaucescens aut sordide vel cinerascenti-glaucescens, opacus, substrato arcte aut laxe affixus, hypothallo indistincto. Apothecia sparsa aut rarius crebra, verrucas formantia subhemisphaericas, 0.5—0.35 mm latas, basin versus sensim dilatatas, strato thallino, thallo concolore obductas, floccosas et pilis instructas plus minus crebris, 0.120—0.100 mm longis, 0.008—0.012 mm crassis, ex hyphis formatis 0.003 mm crassis, sat leptodermaticis, conglutinatis, vertice plus minus late glabro, margine ostiolari minutissimo, leviter prominente, subcinerascente aut pallido, denudato, ostiolo minutissimo, interdum conspicuo. Perithecium apice fulvescens, ceterum pallidum. Nucleus albidus, haud resinoso-guttulosus, jodo non reagens. Paraphyses simplices, crass. 0.001 mm, sat increbre septatae. Asci fusiformes, long. circ. 0.110, crass. 0.014—0.016 mm, membrana tenui. Sporae 8:nae, elongato-fusiformes aut bacillares, rectae aut leviter curvatae, apicibus obtusis aut sat acutis, decolores, septis transversis 7, loculis cylindricis, aequalibus, long. 0.045—0.050, crass. 0.004—0.005 mm, membrana tenui, haud gelatinosa. Thallus hyphis decoloribus, 0.0015—0.003 mm crassis, leptodermaticis, parum septatis. Gonidia dichotome reticulato-ra-

mosa, ramis connexis, cellulis irregulariter oblongis, subrectangularibus, long. 0.006—0.008, crass. 0.002 (0.0015—0.003) mm, ad Heterothallum reticulatum Vain., pertinentia.

Luzon, Subprov. Cagayan, *Bur. Sci. 14588 Ramos*; Subprov. Bataan, Limay, *Bur. Sci. 9637 Robinson*; Subprov. Rizal, *Bur. Sci. 13456 Ramos*; Subprov. Laguna, *Bur. Sci. 23281* pr. p. *McGregor*, Los Baños, *Bur. Sci. 9892, 9893 Robinson*, Calauan, *Bur. Sci. 12502, 12504 McGregor*, mons Maquiling, *Bur. Sci. 17302* pr. p. *Robinson* et *Brown*; Subprov. Tayabas, prope viam Siniloan et flumen Anoling, *Robinson*, mons Pular, *Bur. Sci. 19436 Ramos*; Subprov. Camarines, Moagnas, *Bur. Sci. 6352 Robinson*, Adiagnao, *Bur. Sci. 6387 Robinson*. Polillo, locis numerosis, *Robinson*. Mindanao, Subprov. Butuan, *C. M. Weber 1408, 1429, 1432* pr. p.; Subprov. Bukidnon, *Bur. Sci. 15799 Fénix*. Samar, ad flumen Catubig, *Bur. Sci. 24929* pr. p. *Edaño*. Mindoro, flumen Alag, *Merrill*. Negros, Canlaon Volcano, 3000 ped. alt., *Merrill 6884*. Supra folia *Pandani*, *Freycinetiae*, *Pinagae*, *Diospyri Copelandii* et *D. discoloris*, *Piperis*, *Lunasiae amarae*, *Codiaei* ceterarumque arborum.

15. **P. atriceps** Vain. *P. epiphylla* var. *atriceps* Vain. Lich. Antill. (Journ. of Bot. 1896) p. 35.

Thallus tenuis aut tenuissimus, dispersus aut subcontinuus, maculas haud latas formans, laevigatus, glaber, glaucescens, subnitidus, substrato arcte aut interdum demum sat laxe affixus, hypothallo indistincto. Apothecia sparsa, verrucas formantia conoideo-hemisphaericas, 0.4—0.3 mm latas, basin versus sensim dilatatas, strato thallino, thallo subconcolore aut subolivaceo-pallescente partim obductas, laevigatas, glabras, vertice vel margine ostiolari conoideo-prominente anguste aut sat late denudato et fusco-nigricante, ostiolo minutissimo, interdum conspicuo. Perithecium majore parte pallidum, superne fulvescenti-pallidum, vertice purpureo-fuligineo (sub microscopio). Nucleus albidus, jodo non reagens. Paraphyses numerosae, simplices, crass. 0.0007 mm, septis numerosis. Asci fusiformes, long. 0.072—0.086, crass. 0.008—0.012 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, fusiformi-bacillares, rectae, apicibus obtusis aut acutis, septis 7—5, loculis cylindricis, aequalibus, long. 0.024—0.040, crass. 0.003—0.004 mm, membrana tenui, haud gelatinosa. Gonidia membranacea, cellulis anguloso-subglobosis, diam. 0.005—0.010 mm (lateribus connatis), irregulariter dispositis, nec se-

ries radiantes formantibus (in medio gonidiorum). In thallo parce etiam obvenit Phycopeltis tropica Vain.

Luzon, Subprov. Ilocos Norte, Bangui, *Bur. Sci. 27780* pr. p. *Ramos*; Subprov. Bataan, Limay, *Bur. Sci. 9622* pr. p., *9638* pr. p. *Robinson*; Subprov. Laguna, mons Maquiling, *Bur. Sci. 17184* pr. p. *Robinson*; Subprov. Tayabas, prope flumen Anoling et viam Siniloan, *Robinson*; Subprov. Camarines, Adiagnao, *Bur. Sci. 6388* pr. p. *Robinson*. Polillo, locis numerosis, *Robinson*. Supra folia *Palmarum*, *Pandani* aliarumque arborum et ad truncos *Bambusarum*.

16. **P. epiphylla** Fée Ess. Crypt. Écorc. Suppl. (1837) 76; Müll. Arg. Lich. Beitr. (Fl. 1883) n. 653, Pyr. Fecan. (1888) 24; Vain. Étud. Lich. Brés. II (1890) 226.

Var. **major** Vain. *P. epiphylla* Vain. Lich. Bras. Exs. (1892) n. 147.

Apothecia lat. 0.3—0.5 mm. — Thallo et apotheciis glabris laevigatisque a *P. flocculosa* Vain. differt. Sporae long. usque ad 0.052, crass. 0.003—0.006 mm, 7-septatae.

Luzon, Subprov. Laguna, mons Maquiling, *Bur. Sci. 17184* pr. p. *Robinson*; Subprov. Camarines, Adignao, *Bur. Sci. 6384* pr. p., *6386* pr. p. *Robinson*. Mindanao, Subprov. Butuan, Bunauan, *E. H. Taylor*. Bataan, Albay, *Bur. Sci. 6424* pr. p. *Robinson*. Polillo, *Robinson*. Supra folia arborum et ad truncos *Bambusarum*.

Var. **praestans** (Nyl.) Vain. *Verrucaria praestans* Nyl. Lich. Ang. (1869) 15.

Thallus tenuis aut tenuissimus, continuus, laevigatus, glaber, glaucescens, subnitidus, substrato vulgo arcte adnatus, hypothallo indistincto. Apothecia vulgo dispersa, verrucas formantia hemisphaericas aut conoideo-hemisphaericas, 0.25—0.3 mm latas, basin versus sensim dilatatas, strato thallino, thallo concolore obductas, vertice anguste aut sat late denudato, pallido aut testaceo, margine ostiolari saepe conoideo-prominente, ostiolo minutissimo, interdum conspicuo (circ. 0.040 mm lato). Perithecium superne fulvescenti-pallidum, vertice fulvescente, inferne pallidum, basi applanata, tenui. Nucleus albidus, jodo non reagens. Asci fusiformes, long. 0.060—0.084, crass. 0.010—0.012 mm, membrana tenui. Paraphyses simplices, crass. 0.0007 mm. Sporae 8:nae, polystichae, decolores, bacillares aut clongato-fusiformes, apicibus obtusis aut sat acutis, septis transversis 7, tenuissimis, loculis cylindricis, aequalibus, rectae, long.

circ. 0.036—0.038, crass. 0.003 mm, membrana tenui, haud gelatinosa. Gonidia membranacea, cellulis irregulariter subglobosis, diam. 0.006—0.008 mm, irregulariter dispositis, nec series radiantes formantibus, lateribus connatis. — In *P. epiphyllam* (var. *majorem*) transire videtur.

Luzon, Subprov. Tayabas, prope flumen Anoling, *Robinson*; Subprov. Laguna, mons Maquiling, *Bur. Sci. 17184* pr. p. *Robinson*; Subprov. Bataan, Limay, *Bur. Sci. 9622* pr. p., *9638* pr. p. *Robinson*; Subprov. Camarines, Adiagnao, *Bur. Sci. 6385* pr. p., *6400* pr. p. *Robinson*; Subprov. Albay, Basag, *Bur. Sci. 6435 Robinson.* Polillo, locis numerosis, *Robinson.* Supra folia *Palmarum* aliarumque arborum plantarumque et ad truncos *Bambusarum.*

Sect. 4. **Phyllosegestria** Vain. *Phylloporina* Müll. Sect. 1. *Euphylloporina* (Müll. Arg.) Lich. Epiph. (1890) p. 21, pr. p.

Gonidia ad Phycopeltidem (aut Heterothallum) pertinentia. Perithecium amphithecio thallino plus minus late obductum. Sporae fusiformes. Foliicolae.

17. **P. hypothetica** Vain. sp. nov.

Thallus tenuis, dispersus aut sat continuus, verrucoso-inaequalis, verrucis parvis, bene depressis, contiguis, cinereo-glaucescens aut cinerascens, subnitidus, substrato arcte adnatus, hypothallo nigricante varie interruptus aut cinctus. Apothecia sparsa, verrucas formantia hemisphaericas aut conoideo-hemisphaericas, 0.8—0.6 mm latas, basin versus sensim dilatatas, strato thallino, leviter subverruculoso-inaequali, thallo subconcolore obductas, margine ostiolari conoideo-prominente, angusto, nigricante, ostiolo minutissimo subinconspicuove. Perithecium (in lamina tenui) apicem versus fulvo-rubescens, ceterum pallidum. Nucleus albidus, jodo non reagens. Paraphyses simplices, crass. 0.001 mm. Asci ventricosi, membrana tenui. Sporae 8:nae, distichae, decolores, fusiformes, rectae aut obliquae, apicibus obtusis, septis transversis 7—5 (—3), loculis cylindricis, sat aequalibus aut irregulariter inaequalibus aut 2 mediis saepe multo longioribus, long. 0.053—0.062, crass. 0.014—0.016 mm, membrana modice gelatinoso-incrassata. Gonidia membranacea, cellulis anguloso-globosis, diam. 0.005—0.006 mm, aut long. 0.005—0.009 mm, in basi gonidii parce oblongis, series valde irregulares

formantibus, apicibus et lateribus connatis, ad Phycopeltidem pertinentia.

Polillo, *Robinson*. Supra folia *Semecarpi*, ut videtur. Postea collecta etiam in: Luzon, Subprov. Laguna, *Bur. Sci. 23281* pr. p. *McGregor*.

18. **P. semecarpi** Vain. sp. nov.

Thallus tenuissimus, continuus aut subdispersus, laevigatus, glaucescens aut cinereo-glaucescens, opacus, substrato arcte adnatus, hypothallo indistincto. Apothecia crebra, leviter prominentia, 0.2—0.15 mm lata, strato thallino, laevigato, thallo concolore, basin versus anguste obducta, lateribus haud praeruptis, vertice vel margine ostiolari nigro, 0.15—0.1 mm lato, opaco, denudato, parum aut leviter prominente, ostiolo 0.020 mm lato. Perithecium in lamina tenui pallido-fulvescens, KHO aurantiaco-fulvescens. Nucleus albidus, jodo non reagens. Paraphyses simplices, crass. 0.0005—0.0007 mm. Asci fusiformes, long. circ. 0.070, crass. 0.012—0.014 mm. Sporae 8:nae, distichae, decolores, fusiformes, apicibus obtusis aut altero apice sat acuto, vulgo rectae, 3-septatae, loculis cylindricis, aequalibus, long. 0.018—0.030, crass. 0.004—0.006 mm, membrana tenui, haud gelatinosa. Facie externa subsimilis P. nitidulae Müll. Arg. (Vain. Lich. Antill. p. 35), at notis internis ab ea differens. Gonidia phycopeltidea.

Luzon, Subprov. Laguna, Los Baños, *Bur. Sci. 17347* pr. p. *Robinson*. Supra folia *Semecarpi cuneiformis*.

Sect. 5. **Rhaphidiastrella** Vain. Gonidia ad Phycopeltidem aut Heterothallum pertinentia. Perithecium nudum, laete coloratum (haud nigricans). Sporae bacillares aut aciculares aut fusiformi-aciculares. Foliicolae.

19. **P. globulifera** Vain. sp. nov.

Thallus tenuissimus, continuus aut partim subdispersus, laevigatus, glaucescens, parum nitidus, substrato arcte adnatus, hypothallo indistincto. Apothecia sparsa, subglobosa, diam. 0.200—0.210 mm, thallo adnata, sessilia, basi constricta, amphithecio destituta, testacea aut testaceo-pallida, opaca, margine ostiolari leviter prominente, angusto, rufescente, ostiolo inconspicuo. Perithecium globosum, testaceum in lamina tenui. Nucleus decoloratus, jodo non reagens. Paraphyses simplices, crass. 0.0007 mm, increbre septa-

tae. Asci fusiformes, long. circ. 0.060, crass. 0.008 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, bacillares aut aciculares, apicibus obtusis aut altero apice rotundato, altero sensim attenuato acutove, rectae, 3-septatae, loculis cylindricis, aequalibus, long. 0.017—0.021, crass. 0.0015—0.002 mm, membrana haud gelatinosa. Gonidia ad Heterothallum reticulatum Vain. pertinentia, cellulis globosis aut irregulariter subellipsoideis, in seriebus ramoso-connexis dispositis.

Polillo, *Robinson.* Supra folia arboris.

20. **P. sphaerocephala** Vain. sp. nov.

Thallus tenuissimus, continuus, laevigatus, glaucescens, opacus, substrato arcte adnatus, hypothallo indistincto. Apothecia sparsa, subglobosa, diam. circ. 0.350 mm, thallo adnata, sessilia, basi constricta, pallida, parum nitida, margine ostiolari leviter aut parum prominente, angusto, subconcolore, ostiolo inconspicuo. Perithecium in lamina tenui pallidum. Paraphyses simplices, crass. 0.0007—0.001 mm, increbre septatae. Asci fusiformes, long. circ. 0.094, crass. 0.011 mm, membrana tenui. Sporae 8:nae, polystichae, decolores, fusiformi-aciculares, parte crassiore inter medium et apicem superiorem, altero apice obtuso, altero sensim attenuato, septis transversis 7, loculis cylindricis, vulgo aequalibus aut raro cellula tertia apicis superioris reliquis longiore, membrana saepe strato tenui gelatinoso induta, long. 0.032—0.040, crass. 0.005 mm. Gonidia ad Phycopeltidem tropicam (Moeb.) Hansg. pertinentia, cellulis oblongo-rectangularibus, long. 0.014, lat. 0.004 mm, in seriebus radiantibus, latere connatis dispositis. — Speciei priori affinis, at ad species intermedias inter Rhaphidiastrellas et Segestrinulas Müll. Arg. pertinet.

Polillo, *Robinson.* Supra folia arboris.